

OHIO UNIVERSITY BULLETIN
1987-88 UNDERGRADUATE CATALOG
CURRICULA AND COURSES



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OHIO UNIVERSITY BULLETIN

1967-68 UNDERGRADUATE CATALOG CURRICULA AND COURSES

OHIO UNIVERSITY, Athens, Ohio

The fees, programs, and requirements contained in this bulletin are effective with the 1967 Fall Quarter. They are necessarily subject to change without notice at the discretion of the University.

Volume LXIV

January, 1967

Number 1

Published at Athens, Ohio, by Ohio University, monthly in January, February, March, April, August, and December (twice). Second class postage paid at Athens, Ohio 45701.

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ADDRESS INQUIRIES CONCERNING:

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UNIVERSITY BOARD AND ROOM to the Director of Housing.

CLASS ATTENDANCE POLICY and excused absences to the Director of Student Affairs Research and Personnel Records.

CONTINUING EDUCATION and extension classes to the Director of Continuing Education.

CORRESPONDENCE STUDY to the Director of Correspondence Study.

CURRICULA and degree requirements of the various colleges to the dean of the college in question.

GRADES, TRANSCRIPTS, to the Director of Academic Records.

SCHOLARSHIPS, loans, and work opportunities to the Director of Student Financial Aids.

VETERANS' AFFAIRS to the Office of Registration.

ACADEMIC CALENDAR FOR 1967-1968

(Final examinations occupy the last week of the Fall, Winter, and Spring Quarters, and the last class period of each term of the Summer Quarter)

FALL QUARTER, 1967

Sept. 27 <i>Wed.</i>	Classes begin.
Oct. 7 <i>Sat.</i>	Date until which enrollment load must be maintained.
	Last day for filing application and paying fee for conferral of degree on Dec. 16.
Oct. 9 <i>Mon.</i>	First day on which dropping a course may be approved.
Oct. 26 <i>Thurs.</i>	Faculty submit freshman grades.
Nov. 4 <i>Sat.</i>	Last day on which dropping a course may be approved.
Nov. 6 <i>Mon.</i>	First day on which WP-WF grades may apply for withdrawal by change order, and first day on which these grades apply for withdrawal from the University.
Nov. 22 <i>Wed.</i>	Thanksgiving vacation begins at noon.
Nov. 25 <i>Sat.</i>	Last day on which WP-WF grades may apply for withdrawal by change order.
Nov. 27 <i>Mon.</i>	Classes resume with first scheduled class.
	First day on which an Incomplete may apply.
Dec. 9 <i>Sat.</i>	Last day on which WP-WF grades apply for withdrawal from the University.
Dec. 16 <i>Sat.</i>	Last day of Fall Quarter.

WINTER QUARTER, 1968

Jan. 3 <i>Wed.</i>	First day of classes.
Jan. 13 <i>Sat.</i>	Last day for filing application and paying fee for conferral of degree on Mar. 16.
	Date until which enrollment load must be maintained.
Jan. 15 <i>Mon.</i>	First day on which dropping a course may be approved.
Feb. 1 <i>Thurs.</i>	Faculty submit freshman grades.
Feb. 10 <i>Sat.</i>	Last day on which dropping a course may be approved.
Feb. 12 <i>Mon.</i>	First day on which WP-WF grades may apply for withdrawal by change order; and first day on which these grades apply for withdrawal from the University.
Mar. 2 <i>Sat.</i>	Last day on which withdrawal from a course by change order may be approved.
Mar. 4 <i>Mon.</i>	First day on which an Incomplete may apply.

Mar. 9 Sat.	Last day on which WP-WF grades apply for withdrawal from the University, and last day on which withdrawal may be approved.
Mar. 16 Sat.	Last day of Winter Quarter.

SPRING QUARTER, 1968

Mar. 25 Mon.	First day of classes.
Apr. 6 Sat.	Date until which enrollment load must be maintained.
Apr. 8 Mon.	First day on which dropping a course may be approved.
Apr. 16 Tues.	Last day for filing application and paying fee for conferral of degree on June 9.
Apr. 25 Thurs.	Faculty submit freshman grades.
May 4 Sat.	Last day on which dropping a course may be approved.
May 6 Mon.	First day upon which WP-WF grades apply for withdrawal by change order; and first day these grades apply for withdrawal from the University.
May 25 Sat.	Last day upon which WP-WF grades apply for withdrawal by change order and last day on which withdrawal from a course by change order may be approved.
May 27 Mon.	First day on which Incomplete may apply.
May 30 Thurs.	Memorial Day holiday.
June 1 Sat.	Last day on which WP-WF grades apply for withdrawal from the University; and last day on which withdrawal may be approved.
June 8 Sat.	Last day of Spring Quarter.
June 9 Sun.	Annual Commencement.

SUMMER QUARTER, 1968, First Term

June 17 Mon.	First day of classes.
June 22 Sat.	Date until which enrollment load must be maintained.
	Last day for First Term for filing application and paying fee for conferral of degree on Aug. 31.
June 24 Mon.	First day on which dropping a course may be approved.
July 4 Thurs.	Independence Day holiday.
July 6 Sat.	Last day on which dropping a course may be approved.
July 10 Wed.	First day on which WP-WF grades apply for withdrawal by change order; and first day these grades apply for withdrawal from the University.

July 17 <i>Wed.</i>	Last day on which WP-WF grades apply for withdrawal by change order; and last day on which withdrawal from a course by change order may be approved.
July 20 <i>Sat.</i>	Last day on which WP-WF grades apply for withdrawal from the University; and last day on which withdrawal may be approved.
July 24 <i>Wed.</i>	Last day of Summer Quarter, First Term.

SUMMER QUARTER, 1968, Second Term

July 25 <i>Thurs.</i>	First day of classes.
July 27 <i>Sat.</i>	Date until which enrollment load must be maintained. First day on which dropping a course may be approved. Last day for Second Term for filing application and paying fee for conferral of degree on Aug. 31.
Aug. 10 <i>Sat.</i>	Last day on which dropping a course may be approved.
Aug. 14 <i>Wed.</i>	First day on which WP-WF grades may apply for withdrawal by change order; and first day on which these grades apply for withdrawal from the University.
Aug. 21 <i>Wed.</i>	Last day on which WP-WF grades apply for withdrawal by change order. Last day on which withdrawal from a course by change order may be approved.
Aug. 24 <i>Sat.</i>	Last day on which WP-WF grades apply for withdrawal from the University and last day on which withdrawal may be approved. First day on which an Incomplete may apply.
Aug. 31 <i>Sat.</i>	Last day of Summer Quarter-Second Term.

ADMINISTRATIVE OFFICERS OF THE UNIVERSITY

VERNON R. ALDEN, M.B.A., LL.D., L.H.D., *President of the University*

THOMAS S. SMITH, Ph.D., *Vice President for Academic Affairs*

MARTIN L. HECHT, B.S.C., *Vice President for Development*

JAMES J. WHALEN, Ph.D., *Vice President*

WILLIAM W. CONVERSE, Ed.D., *Vice President for Business Affairs*

ROBERT L. SAVAGE, Ph.D., *Vice President for Research and Industrial Liaison*

JOHN F. MILAR, M.B.A., *Treasurer*

ADMINISTRATIVE OFFICERS IN THE COLLEGES AND DIVISIONS

THE UNIVERSITY COLLEGE.....Gaige B. Paulsen, Ph.D., *Dean*

THE COLLEGE OF ARTS AND SCIENCES....George R. Klare, Ph.D., *Dean*

THE COLLEGE OF BUSINESS ADMINISTRATION.....Harry F. Evarts,
D.B.A., *Dean*

THE SCHOOL OF JOURNALISM.....Loren J. Hortin, A.M., Litt.D., *Director*

THE COLLEGE OF EDUCATION.....Gilford W. Crowell, Ed.D., *Dean*

THE SCHOOL OF HOME ECONOMICS.....Beulah E. Sellers, Ph.D., *Director*

THE COLLEGE OF ENGINEERING AND TECHNOLOGY.....
Robert L. Savage, Ph.D., *Dean*

THE COLLEGE OF FINE ARTSJack Sherman Morrison, Ph.D., *Dean*

THE SCHOOL OF ARCHITECTURE AND DESIGN

Fount T. Smothers, B.Arch., *Acting Director*

THE SCHOOL OF ARTFrederick D. Leach, Ph.D., *Director*

THE SCHOOL OF COMMUNICATIONClaude E. Kantner, Ph.D., *Director*

THE SCHOOL OF MUSICSherwood Hall, Mus.M., *Acting Director*

THE SCHOOL OF THEATERJohn A. Walker, Ph.D., *Acting Director*

THE GRADUATE COLLEGE.....Taylor Culbert, Ph.D., *Dean*

OFF-CAMPUS ACADEMIC PROGRAMS....Edward M. Penson, Ph.D., *Dean*

CONTINUING EDUCATIONCurtis M. Johnson, M.A., *Director*

CORRESPONDENCE STUDYElizabeth B. Stanton, Ph.D., *Director*

PHYSICAL EDUCATION AND INTERCOLLEGIATE ATHLETICS
William D. Rohr, M.Ed., *Director*

ACADEMIC ORGANIZATION OF THE UNIVERSITY

THE UNIVERSITY COLLEGE

Basic preparation for admission to each of the degree-granting colleges.
Two-year terminal programs leading to the Associate in Arts degree.

THE COLLEGE OF ARTS AND SCIENCES

Pre-professional curricula

Curricula leading to the degrees Bachelor of Arts and Bachelor of Science

Anthropology	International Studies
Archaeology and Antiquities	African Studies
Astronomy	Latin American Studies
Botany	Southeast Asia Studies
Chemistry	Mathematics
Classical Languages	Modern Languages
English Language and Literature	French Russian
Linguistics	German Spanish
General Studies	Italian
Biology	Music
Great Books	Philosophy
Physical Science	Physics
Social Sciences	Psychology
Geography and Geology	Sociology
Government	Zoology
History	Bacteriology Medical Technology
	Preparation for Teaching at the Secondary Level

THE COLLEGE OF BUSINESS ADMINISTRATION

Curricula leading to the degree Bachelor of Business Administration

Accounting	Economics
Aviation	Finance
Business Administration	Management
Business and Industrial Communications	Marketing
Business Law	Quantitative Methods

THE SCHOOL OF JOURNALISM

Curricula leading to the degree Bachelor of Science in Journalism

THE COLLEGE OF EDUCATION

Teacher-training curricula leading to the degree Bachelor of Science in Education

Elementary Education	Center for Educational Research and Service
Secondary Education	University Laboratory School
Student Teaching	Educational Placement Bureau
Teaching Certificates	
Guidance, Counseling, and Student Personnel Services	Center for International Programs Cooperative Center for Social Science Education

THE SCHOOL OF HOME ECONOMICS

Curricula leading to the degree Bachelor of Science in Home Economics

THE COLLEGE OF ENGINEERING AND TECHNOLOGY

Engineering curricula leading to the degrees Bachelor of Science in Chemical Engineering, Bachelor of Science in Civil Engineering, Bachelor of Science in Electrical Engineering, Bachelor of Science in Industrial and Systems Engineering, and Bachelor of Science in Mechanical Engineering

Chemical	Engineering Graphics
Civil	Industrial and Systems
Electrical	Mechanical

THE DEPARTMENT OF INDUSTRIAL TECHNOLOGY

Curriculum leading to the degree Bachelor of Science in Industrial Technology

Industrial Arts (Teaching)	Industrial Technology
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THE COLLEGE OF FINE ARTS**THE SCHOOL OF ARCHITECTURE AND DESIGN**

Architecture	Industrial Design
Advertising Design	Interior Design

THE SCHOOL OF ART

Art Education	Photography
Art History	Sculpture and Ceramics
Painting and Drawing	

THE SCHOOL OF COMMUNICATION

Interpersonal Communication	Speech Pathology, Audiology,
Radio-Television	and Speech Science

THE SCHOOL OF MUSIC

Applied Music	Music Therapy
Music Education	Theory and Composition
Music History and Literature	

THE SCHOOL OF THEATER

Acting	Playwriting
Children's Drama	Theater Education
Design-Technical Production	

DEPARTMENT OF COMPARATIVE ARTS

DIVISIONS OF THE UNIVERSITY

OFF-CAMPUS ACADEMIC PROGRAMS

Academic Center, Ironton	
Educational Center, Lockbourne Air Force Base	
Extension Division	
Continuing Education	
Correspondence Study	
Extension Classes	
Workshops, Conferences and Institutes	
Regional Campuses	
Belmont County	
Chillicothe	
Lancaster	
Portsmouth	
Zanesville	

PHYSICAL EDUCATION AND INTERCOLLEGIATE ATHLETICS

THE RESERVE OFFICERS' TRAINING CORPS

Aerospace Studies	
Military Science	

SPECIAL PROGRAMS

HONORS COLLEGE

Programs provide opportunity for extra study in the liberal arts in addition to concentrating on a major area.

OHIO FELLOWS PROGRAM

Provides special activities, experiences, and personal assistance for students showing qualities essential to service in public affairs.

OHIO PROGRAM OF INTENSIVE ENGLISH

Offers intensive training in English for students whose native tongue is not English.

THE GRADUATE COLLEGE

Programs leading to the degrees Master of Arts, Master of Business Administration, Master of Education, Master of Fine Arts, Master of Science, and Doctor of Philosophy.

GENERAL INFORMATION

REGULATIONS

REGISTRATION

Details concerning the registration procedure are given in the schedule of classes which may be obtained at the Office of Registration before each registration.

A student enrolled in the University completes registration for a subsequent quarter in accordance with regulations announced by the Director of Registration.

A former student obtains registration information by calling at the Office of Registration or by making his request by mail about a month before the opening of the session he wishes to attend.

A new student receives registration information by mail with other admission material.

STUDENT LOAD

With the exception of commuters, all regular students, including those on probation, are required to schedule at least 15 credit hours each quarter. This minimum 15 credit hour load must be maintained by each regular student during the first two weeks of the quarter.

All special students will schedule no more than 11 credit hours each quarter.

AUDITING PRIVILEGE

A student may receive permission to audit courses from the dean of his college. The courses must be marked "audit" on registration forms. The fee for auditing is the same as for credit. Changes from audit to credit or from credit to audit are made by change order during the period when changes are permitted.

CLASSIFICATION OF STUDENTS

A student who has been regularly admitted to the University and who expects to pursue a degree course is given rank according to the number of quarter hours completed: freshman, 0-44; sophomore, 45-89; junior, 90-134; and senior, 135 and over.

All other students are unclassified. Unclassified students enroll in the University College.

CHANGE ORDERS

A student who finds it necessary to add a course, withdraw from a course, or correct his registration, requests a change order in the office of the dean of the college in which enrolled. The order does not go into effect until it has been presented to and accepted by the Office of Registration.

A course may not be added after the close of the second week of a quarter.

DROPPING A COURSE

Prior to the end of the sixth week and after the second week of the quarter, a student may drop a course which is not a specific requirement of his college provided he continues with enrollment of at least 12 credit hours. No grade will be reported for a course dropped before the end of the sixth week. If a student is permitted to drop a course in the 7th, 8th or 9th week of the quarter, the grade reported by the instructor will be either WP or WF. No course may be dropped by change order after the 9th week.

CHANGE ORDER PROCEDURE

The student secures a change order form in the dean's office and then consults the designated departmental representative or the instructor of each course being dropped or added. The departmental representative or the instructor approves the change. He then signs the change order form to validate the change.

After securing the dean's approval, the student deposits the change order form in the Office of Registration and pays the change order fee of \$2 if it was assessed by the dean.

Changes correcting mechanical errors in registration during the first week of classes may be approved by the dean of the college following approval of the departmental representative.

The dates marking the close of each period mentioned are shown in the calendar.

CHANGE OF ADDRESS

Forms for reporting a change of home or Athens address are available in the Registrar's office. A student is responsible for any University office communication sent to him at the last address reported to the Office of Registration.

CHANGE OF COLLEGE

Application for transfer from one degree college to another is made in the office of the dean of the college in which the student is enrolled and should be made before registration. The change goes into effect when the application, signed by the two deans concerned, has been presented to the Office of Registration and the transfer fee of \$2 has been paid. A student must fulfill all the requirements of the degree and the college to which he transfers. The change must be completed within two weeks after the opening of a session or the student remains in the college in which he was registered until the next session.

WITHDRAWAL FROM THE UNIVERSITY

Application for withdrawal is made on a withdrawal form obtained in the office of

the dean of the college in which the student is enrolled. When the request for the withdrawal has been approved by the dean of the college, the order is referred to the Office of Registration which grants an official withdrawal after it has been determined that all obligations to the University have been met. A refund of registration fees is made according to regulations under "fees."

A student who withdraws from the University before the end of the first six weeks of the quarter shall establish no grade record for that quarter. The instructors will be notified of the withdrawal but no report of a grade is required.

A student who withdraws during the 7th, 8th, or 9th week of a quarter will establish an academic record for that quarter. Each instructor will be expected to report a WP or WF grade.

A withdrawal in the 10th or 11th week will establish a WP or WF grade in each course unless an incomplete is appropriate.

All withdrawals initiated after the 6th week must be reviewed by the dean of the college who will determine the date when the withdrawal from the academic work becomes effective for purposes of reporting course grades. E.G., in cases where a student's illness requiring absence from class has extended from the period of the first six weeks and into the 7th, 8th or 9th week when the withdrawal is finally requested, the date of the withdrawal for academic purposes would be at the onset of the illness. The Office of Academic Records would record a withdrawal, and the instructors would be notified that no grade report is required.

A student who fails to complete the work of a course and does not complete an authorized withdrawal shall have an F reported for that course. An Incomplete should be used only when the student is doing passing work and when only a small part of the session's work has not been completed because of illness or other reason beyond his control as verified by the Office of Student Affairs Research and Personnel Records or for some reason acceptable to the dean of the college in which he is enrolled.

PROLONGED ABSENCE FROM THE UNIVERSITY

Students who resume their studies at Ohio University after an absence of two years will be required to submit the standard history and physical examination form as required for all new students entering the University.

CREDIT

All credit is designated in quarter hours. A quarter hour is the equivalent of one recitation or two or more laboratory periods a week throughout a quarter. The final examinations are held during the last week of a session and all students are required to take the examinations according to the schedule issued by the Director of Scheduling.

The final examination for honors work must be taken before the opening of the regular examination period. For information concerning honors work, refer to "Departmental Honors Program."

MOTOR VEHICLES

University policy and regulations require that all motor vehicles operated by students in Athens, including student-owned automobiles, automobiles belonging to parents or relatives, motorcycles and scooters, must be registered with the University. This registration includes permanent town residents, married and graduate students and commuters. The registration fee will be paid for the first quarter during registration week and will register the vehicle for the entire academic year.

Upon registration and payment of the fee, each student will be given a windshield decal which must be attached to the lower righthand corner of the windshield in accordance with state law.

If a car is brought to the campus after registration week it must be registered within twenty-four hours at the office of the Director of Security.

Failure to register a motor vehicle will result in a fine. In addition, the student will be required to pay the registration fee and he may be denied his driving privileges.

SCHOLARSHIP

THE GRADING SYSTEM

At the close of a session or upon the completion of a course an instructor reports a letter grade indicating the quality of a student's work in the course. Points are assigned for each quarter hour of credit earned, according to the following grading system:

Letter Grade	Explanation	Points Per Quarter Hour
A	Very high	4
B	High	3
C	Average	2
D	Passing but low	1
F	Failure	0*
Pr	Progress	0**
Ps # #	Passed	0**
I	Incomplete	0*
WP	Withdrawn Passing	**
WF	Withdrawn Failing	0*
Cr.#	Credit without grade	**

*Hours are included in total hours attempted.

**Hours are not included in total hours attempted.

#Used at Ohio University for certain specified courses.

##Indicates Pass under Pass-Fail option.

THE POINT-HOUR RATIO

The basis for determining scholastic standing is the point-hour ratio. It is obtained by dividing the total number of points earned by the total number of quarter hours undertaken, excluding courses in which the marks "Pr," "Ps," "WP," or "Cr." are recorded (those with ** in the table).

Students may not withdraw from a course after the close of the 9th week. Withdrawal from a course during the 7th, 8th, or 9th week will result in a WP or WF grade. The weeks are counted from the date marking the opening of the quarter.

Two methods are available to the student for removing an "I" grade from his record: by arranging with the instructor to complete the work of the course within six weeks after the opening of the next quarter he is in residence, or by re-registering for the course and completing it with a passing grade.

Except for hours of "Pr," "Ps," "WP," and "Cr," the entire record including each grade in each course attempted, is used to determine probation status, eligibility for honors, and class ranking, and for all purposes where a cumulative point-hour ratio is requested.

MINIMUM STANDARD FOR GRADUATION

To meet the minimum standard for graduation from Ohio University, a student must have a point-hour ratio of 2.0 (C) on all hours attempted, but including only the final hours and points in repeated courses. This applies to his total record, and to his major or equivalent as determined by his college. For a student with transferred credit, this rule applies to both his cumulative record, which includes transferred credits, and to his Ohio University record exclusive of transferred credits.

REPEATING A COURSE

When a course is repeated, the last grade becomes the grade in that course for graduation purposes. Previous grades in repeated courses continue to be used to determine the cumulative point-hour ratio. A course may not be repeated after an advanced course in the same field has been passed. A course passed may not be repeated in the quarter in which the student is a candidate for graduation.

DEAN'S LIST

Freshmen achieve the Dean's List in the University College provided their PHR with a minimum 15 hour load is at least a 3.0 in their first quarter. Freshmen in their second or third quarter may qualify for the Dean's List provided they attain at least a

3.0 cumulative average on the minimum load of 15 hours per quarter. No freshman is listed more than once for a Dean's List Certificate. After students have achieved the Freshman Dean's List they will qualify for the upperclass Dean's List should they earn at least a 3.3 PHR in a single quarter on the minimum 15 hour load.

All degree college students' names are published on the Dean's List of their college provided they achieve at least a 3.3 average on a minimum load of 15 hours in a single quarter.

GRADE REPORTS

STUDENTS IN THE UNIVERSITY COLLEGE

At the end of the 5th week, grades for University College students are reported to the Office of Academic Records. The grades are available to the student and his counselor. The Dean of the University College sends a notice of warning at the close of the 6th week to the student who has a point-hour ratio below 1.6.

A student who is on probation will have a notice of warning sent to his parents at the 6th week grading period if his point-hour ratio is below 2.0.

A final grade report is mailed to each student after the close of each quarter.

STUDENTS IN DEGREE COLLEGES

At mid-quarter instructors report to the student his standing in class, if requested by the student to do so.

A final grade report is mailed to each student after the close of a quarter.

HONORS

(See Honors College)

PROBATION REGULATIONS

Each student's record is reviewed at the close of each quarter. If a student's cumulative record shows a grade-point deficiency,

he is subject to being placed on probation or dropped from the University. The point-hour ratio is obtained by dividing the total number of grade points earned by the total hours attempted. The entire record, including each grade in each course attempted, is used to determine probation status. In determining points each hour of A equals 4, B equals 3, C equals 2, D equals 1, and F and WF equal 0. Hours of Cr., Pr, Ps, and WP are excluded in the computation.

The extent to which a student's record is below a point-hour ratio of 2.0 (C) determines whether he will be dropped, placed on probation, or continued on probation. His deficiency is determined by multiplying the total number of hours attempted by two and subtracting from this all points earned. For example, if a student has attempted 40 hours and has earned 65 points his deficiency is 15: 40×2.0 (the point-hour ratio required for graduation) equals 80; 80 minus 65 points earned equals 15.

DROPPED FROM THE UNIVERSITY

Any student whose grade-point deficiency at the close of a quarter exceeds the number of hours attempted will be dropped from the University. A student may be dropped even though he has not previously been on probation. A student on probation is dropped from the University if his point-grade deficiency has increased and he is not eligible to be removed from probation.

Normally, a petition for reinstatement will not be considered until 12 months after the student was dropped. The student presents the petition to the dean of his college. Only extraordinary circumstances will prompt the Committee to consider a petition for second reinstatement, and then not until 24 months after the student was dropped.

A student who is dropped from the University may not enroll for courses on the Athens campus, on a regional campus or in correspondence or extension courses conducted by Ohio University until reinstated.

PROBATION

A student who has attempted fewer than 90 hours is placed on probation when his grade-point deficiency is greater than 12 grade points. The student who has attempted 90 or more hours is placed on probation provided he does not have a 2.0 average.

PROBATION REMOVED

Probation is removed if a student on probation who has completed no more than 90 hours reduces his grade-point deficiency to 12 or fewer grade points. For the student who has attempted 90 or more hours probation is removed when his point deficiency is reduced to 0.

PROBATION CONTINUED

A student who has been on probation for one quarter may be continued on probation for one additional quarter if his grade-point deficiency has not increased and he is not eligible to be removed from probation. However, at the close of this additional quarter he must be eligible to be removed from probation or he will be dropped from the University.

TRANSCRIPTS

A copy of a student's record is issued by the Office of Academic Records as an official transcript. Transcripts are made only upon request. Each copy of the transcript costs \$1. For a group request of from five to 10 copies the fee is \$5; up to 20 copies, \$10. The transcript carries a statement of good standing except when a student has been dropped from the University because of poor scholarship, non-payment of fees, or unsatisfactory conduct. A student on scholastic probation has his status indicated on his transcript.

CLASS ATTENDANCE POLICY

Each instructor will convey this policy to his students during the 1st week of classes each quarter.

INSTRUCTOR'S ATTENDANCE REPORTS

Instructors are encouraged to report to the Office of Student Affairs Research and Personnel Records the names of students who are frequently absent or tardy. This enables the staff to investigate such cases and to determine what assistance these students may need in dealing with problems outside the classroom.

NOTIFICATION OF CAUSES OF ABSENCE

A notification of absence will be issued to the student by the Office of Student Affairs Research and Personnel Records, enabling the student to make up work missed, when the absence has been due to the following:

1. The student has been confined to the Health Center as a patient.
2. The student has participated in an authorized University activity (such as a departmental trip, music or debate activity, ROTC function or athletic trip).
3. The student has participated in a special event approved by the Executive Committee of the University.
4. The student has had to return home because of a major crisis in his immediate family. Such a crisis might be a death, very serious illness, or accident.

GRADUATION

APPLICATION

A candidate for graduation must make application in the Office of Academic Records and pay the application fee not later than the close of the 2nd week of the quarter in which he plans to graduate. The application fee for a degree is \$15.

If an applicant fails to meet the requirements for graduation, he may reapply for the quarter in which he plans to complete the requirements. The reapplication fee is \$5.

SCHOLASTIC AVERAGE

To meet the minimum standards for graduation from Ohio University, a student must have a point-hour ratio of 2.0 (C) on all hours attempted, but including only the final hours and points in repeated courses. This applies to his total record, and to his major or equivalent as determined by his college. For a student with transferred credit, this rule applies to both his cumulative record, which includes transferred credits, and to his Ohio University record exclusive of transferred credits.

The minimum number of quarter hours required is increased by the number of hours of repeated subjects, and by the number of hours in courses not allowed toward a degree by catalog designation or by the dean of the college, and may be increased by the number of quarter hours earned in physical activity courses.

A student who fails to graduate because of a grade-point deficiency may take, with approval of his dean, up to a maximum of nine quarter hours of courses in correspondence, extension, or on a regional campus of Ohio University to make up his deficiency. Courses may not be taken at another college to make up this deficiency.

MAJOR AREAS OF STUDY

Requirements for majors and fields of concentration are outlined by the individual colleges. A transfer student whose transcript shows the completion of most or of all the courses in a major area of study may be required by the dean of his college to satisfy the departments concerned that he has met Ohio University's standards in that area before it is recognized for graduation.

PHYSICAL EDUCATION

Male students have a requirement of three quarter hours credit in service courses normally completed in the freshman or sophomore year. This may be reduced by passing physical proficiency and sports tests which are offered upon request.

After completing one quarter with

credit the student may elect to try proficiency tests or to continue to register for additional credit. Having passed testing standards prescribed by the Division of Physical Education and Intercollegiate Athletics, the student is excused from further requirements.

Men classified as veterans of the armed forces are not held to the one quarter rule and, therefore, may take proficiency tests on entrance to the University.

Women students are required to complete three quarter hours credit in service courses.

Men and women may elect additional quarters in physical education service courses and, subject to exceptions listed by the colleges, apply six hours of this credit toward degree requirements. Students who elect beyond six hours must register as auditors.

See "Service Courses" in "Courses of Instruction" for additional regulations governing service course credit toward the degree requirement.

EXEMPTIONS, EXCUSES, DEFERMENTS

Exemption from the physical education requirement is made automatically for a graduate student, for a student who is 30 years of age, or over, or for a veteran who is 25 years of age or over, provided he has completed the requirements up to and including the quarter in which he attained the required age.

An excuse from the physical education requirement is granted to a permanently disabled student by the Director of Physical Education upon the recommendation of the Director of the Health Center.

Deferment — postponement for one quarter — is authorized by the Director of Physical Education for a student who has an excessive load in connection with part-time work or in cases of serious scheduling conflicts. Any student who is granted a deferment in physical education courses must complete before graduation the requirement he otherwise would have had to meet without deferment.

RESERVE OFFICERS' TRAINING

Both the Air Force and Army offer a four-year and a two-year program of ROTC education. Both programs lead to a commission as a Second Lieutenant in the respective services. ROTC does not increase the total quarter hours required for most degrees, provided the student effectively utilizes his social science electives for this credit. For details see Reserve Officers' Training section.

RESIDENCE

The minimum requirement for students who complete fewer than 68 quarter hours at Ohio University is the final year (three quarters) with 45 hours of credit. The requirement for those who complete 68 or more quarter hours is the final quarter with 15 hours of credit.

The requirement for regional campus students includes a minimum Athens campus residence of one quarter with 15 hours credit. Enrollment for student teaching in the regional campuses gives credit toward campus residence. This may be completed at any time, and need not be the final weeks prior to receiving the degree.

The residence requirements also apply to the Associate in Arts degree, except that regional campus students may complete all requirements for this degree on the regional campus.

Part-time students earn residence equivalent to the number of hours they complete.

Credit earned in off-campus extension classes and correspondence study does not count toward fulfillment of the residence requirement.

An exception to the final quarter or final year of residence may be made in the case of a student who has otherwise met the minimum residence and scholastic requirements and who has completed all but nine quarter hours, or fewer, required for a degree. When this occurs, a student may complete the final quarter hours, nine or fewer, at another institution, or by extension, correspondence, or regional campus study at Ohio University.

If a student begins graduate study before he complete all requirements for a bachelor's degree, residence for the bachelor's degree will be reduced by as many weeks as credit hours of graduate work completed. The number of weeks subtracted will be credited toward the residence requirement for a master's degree if the credit is acceptable in the program approved for graduate work toward a degree. Residence used for meeting requirements for one or more bachelor's degrees may not be used for meeting the residence requirements for a master's degree.

The residence regulations apply to a student who has been approved for graduation *in absentia* and is completing his last year in an accredited professional school, except that the regulations apply to his residence before he leaves the University to attend the professional school.

IN ABSENTIA

In absentia permission is obtained in writing from the dean of the college in which the student is enrolled. Application for graduation *in absentia* is made by a student in the Office of Academic Records before he leaves the campus. To obtain his bachelor's degree a student who has been approved for the senior-in-absentia privilege in an approved professional school must have completed a full year's work of the quality prescribed for the bachelor's degree at Ohio University, and be eligible for advancement without condition to the second year. The official transcript from the school, and the statement from the dean of the school certifying that he has satisfactorily completed the full year's work and is eligible for advancement without condition to the second year, must be submitted to the Office of Admissions, Ohio University, before the degree conferring date.

TIME LIMIT

The time limit for fulfilling the published requirements for a degree is five years from the date of first registration in the University. Requirements instituted subsequent

to the student's initial registration are applicable at the discretion of the University. The following additional regulations apply.

1. A student who is advanced to a degree college at the end of his first year, and who does not change his major or equivalent, fulfills the requirements in effect at the time he first registered in the University.
2. A student who is retained in the University College for more than one year fulfills the requirements in effect at the time he enters the degree college. If he changes his major or equivalent he fulfills the requirements in effect at the time he makes the change.

A transfer student is governed by the same regulations, except that the number of years in which to complete the degree requirements is reduced by the number of years of transferred work.

GRADUATION WITH HONORS

(See Honors College.)

HONORS WORK PROGRAM

(See Honors College.)

GRANTING OF DEGREES AND COMMENCEMENT

Degrees are granted at the close of each quarter. The annual commencement is held at the close of the spring quarter. Candidates for spring quarter graduation and recipients of degrees at the preceding summer, fall, and winter quarters are invited to attend the exercises.

A SECOND BACHELOR'S DEGREE

A student who desires two bachelor's degrees may meet the requirements for them either simultaneously or successively:

- (a) If a student desires to complete the requirements for the two degrees conferred on the same date, he must meet the particular subject requirements for both degrees; earn a minimum of 45 approved

quarter hours beyond the minimum required for one degree with the requisite scholastic average, both on Ohio University work and on the total record when credit has been transferred from another school; and must have completed a total of 13 quarters of college work or its equivalent, with a minimum of five quarters of residence, or the equivalent, at Ohio University. When the two degrees are offered by different colleges, the student must register in both colleges the quarter in which the degrees are to be conferred.

(b) If a student has met the requirements for two degrees as indicated above and desires to have the degrees conferred in successive quarters, he may do so without

further credit or residence. He may, for example, have one degree conferred at the end of one quarter and may make application for the second degree at a subsequent quarter.

(c) If a student desires to take a second bachelor's degree after he has received his first, he must complete the subject requirements for the second bachelor's degree, earn a minimum of 45 acceptable quarter hours beyond the requirements for the first degree with the requisite scholastic average and have at least an additional quarter of residence, or equivalent, in the college offering the second degree with the completion of at least 15 acceptable quarter hours.

FEES

Official enrollment is completed when fees due have been paid. Fees are payable at the Business Office prior to the opening of classes and in accordance with instructions issued with registration materials. Checks and money orders should be made payable to Ohio University in the exact amount of the fees. If paid by mail, parents should address the check to the student in whose name the account is carried. It is important that the student retain all fee receipts.

Payment of fees owed is a prerequisite to official enrollment, and all students should have sufficient funds to cover these expenses. Post-dated checks will not be accepted. Checks issued to the University and not paid on presentation to the bank, will automatically cancel any receipts given and result in the assessment of penalties.

Ohio University reserves the right to make, without prior notice, any fee adjustments that may become necessary.

UNDERGRADUATE REGISTRATION

Resident	Non-	
of Ohio	Resident	

The Quarter:

Comprehensive fee for load

of 11 to 18 hours, inclusive ..	165.00	330.00
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Includes the general registration fee, the student activity fee, student service fees, such as health, library, and testing, and course and laboratory fees. Excludes fees for private instruction as in music and bowling, which are listed in the course descriptions.)

Extra fee for each quarter

hour in excess of 18 hours ...	15.00	30.00
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Fee for each hour for load

of 1 to 10 hours, inclusive	15.00	30.00
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Auditors pay fees in full as above.

CORRESPONDENCE STUDY:

Registration for each quarter

hour	12.00	13.00
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EXTENSION AND EVENING SCHOOL CLASS:

Registration for each quarter

hour	15.00	30.00
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Fee is increased if class is organized with an enrollment below the required quota.

MISCELLANEOUS FEES

Admission Application filing fee, (nonreturnable)	20.00
Change of course or change of college ...	2.00
Entrance Tests, when not taken at the designated time	2.00
Duplicate official forms, fee receipts, grade report, etc.	1.00
Examination for advanced standing, each quarter hour	5.00
Graduation	
Application for degree	15.00
Re-application	5.00
Penalty for late application, if approved	5.00
Late registration, if approved	10.00
Transcript of record	1.00
Group requests of five to ten copies, \$5; up to twenty copies, \$10.	
Vocational Counseling Fee for students and pro- spective students	5.00

REFUND OF FEES

Voluntary and official withdrawal from the University entitles the student to a refund of 80 per cent of the comprehensive fee if he withdraws within the 1st and 2nd weeks of a quarter. A week is interpreted to mean a calendar week and ends at noon on Saturday.

If a student withdraws from the University before he completes full payment of fees, he is considered indebted to the University for the amount determined according to the refund regulations.

Refunds are issued thirty days after date of withdrawal.

SERVICES**UNIVERSITY HEALTH
SERVICES**

The University Health Services provide a complete outpatient medical clinic and a 90-bed hospital section in the Hudson Health Center. The medical staff includes 9 full-time physicians, a nursing staff of 25 registered nurses and registered laboratory and x-ray personnel. Immunization, Physical Medicine and Mental Hygiene Departments are staffed by appropriate professional personnel. Complete dental care is available through the fully-equipped modern dental facility located in the Health Center. Emergency service is provided 24 hours a day.

The Student Health Program is designed to be a comprehensive program for the prevention and treatment of illness and accidental injuries. Associated with the University Health Services is the Department of Environmental Health.

Major surgery and certain special diagnostic procedures which cannot be performed at the Center are provided by referral from a staff physician. Costs up to \$350 resulting from referrals required because of illness or injuries occurring in Athens will be paid by the University Mutual Health Fund. Specialists in all fields of medicine are available when needed through health service referrals.

ENTRANCE MEDICAL REQUIREMENTS

The Health Service maintains a continuous health record on each student beginning with the report of medical history and physical examination by the family physician which is required for admission to the University. The medical report includes indication of completion of the required vaccination against smallpox within the past three years and proper immunization against tetanus within the past five years.

A tuberculin skin test is required for each new student and is given at the Health Center at the time of entrance to the University. All positive skin test reactors receive a chest x-ray annually.

Students who resume their studies at Ohio University after an absence of two years will be required to submit the standard history and physical examination form as required for all new students entering the University. A tuberculin skin test at the time of re-enrollment at the University is also required of these students.

MAJOR MEDICAL INSURANCE

A major medical insurance plan, specifically designed to supplement the care provided by the University Health Services, is mandatory for students at an annual premium of \$16, unless a student submits evidence that he is covered by a comparable private insurance plan. A major medical-surgical expense protection insurance plan for the dependents of married students is available through the University comprehensive group medical insurance policy. Benefits of the policy are excellent and are available for a very low premium.

COUNSELING

GENERAL COUNSELING

General counseling is of special concern to members of the Student Affairs staff. Their offices are located in McGuffey Hall. Through their contact with students in various student activities and organizations, and through residence hall programs, these per-

sons are in close touch with student life. Any staff member in the residence halls or in McGuffey Hall is willing to consult with students about problems of concern to them, and will be able to refer a student to the best source of information or guidance.

CENTER FOR PSYCHOLOGICAL SERVICES

Professional counseling services are provided for undergraduate and graduate students. Confidential counseling is available for all types of personal adjustment problems including those of an emotional, marital, and social nature. Students who are having academic difficulties may receive help in understanding the causes of their difficulties. Students who are uncertain about their educational and career objectives can obtain help in appraising their aptitudes, interests, performances, and personal characteristics so that they may make more appropriate and satisfying decisions. An extensive file of information is available about occupations and career areas including information about the duties, present and future opportunities, and income related to particular occupations.

Students who wish to obtain confidential consultations about academic, career, and personal adjustment concerns can do so by contacting the receptionist at McKee House at 44 University Terrace or by calling 594-6081.

GUIDANCE TRAINING LABORATORY

The Guidance Training Laboratory provides special guidance services for students enrolled in the College of Education, and others who wish assistance with problems of vocational and educational choice. Students are accepted who volunteer or who are referred by staff. Counseling and testing is provided by graduate students under supervision and by professional staff of the Department of Guidance Counseling and Student Personnel of the College of Education. Referral arrangements are maintained with other counseling services of the University. Students wishing to use the services of the laboratory should make appointments by reporting to Room 346, McCracken Hall.

THE CENTER FOR COMMUNICATION STUDIES

The Center for Communication Studies of the School of Communication consists of faculty members, space, and equipment to generate, organize, and conduct research across a broad spectrum of human communication behavior, and disseminate reports on the research. In addition, it provides a service function to both academic and non-academic organizations by providing personnel to develop and teach courses and seminars dealing with communication behavior and problems.

Research studies may be generated through standard academic channels, or on a contract basis for organizations outside the university who desire to provide financial support for systematic research in the area of communication behavior. Investigations typically employ experimental or descriptive research methodology; however, no methodological approach which shows promise is excluded.

In addition to the research facilities, students have access to Traineeships and Internships which are directly related to communication research and activity. Participants in such activities are assisted and supervised by the Center's faculty.

To provide focal points for specialized research interests of faculty and students, the following units exist administratively within the Center for Communication Studies: Listening Research Laboratory, Organizational Communication Research Laboratory, Peer Group Research Laboratory, and Persuasion and Propaganda Research Laboratory. Those faculty members affiliated with these research areas are uniquely qualified to provide research leadership. In addition, the Center is staffed by faculty with special competencies in the areas of measurement methodology and research design.

The Listening Research Laboratory provides space and facilities for systematic research in the areas of listening comprehension, compressed speech, and the use and construction of listening tests. In addition,

a library of tapes and records is maintained providing models to assist students and faculty in the development of their own oral communication skills.

The Organizational Communication Research Laboratory has been organized to perform research in the laboratory or field situation to examine the structural and social-psychological variables of communication in the organizational setting, e.g.: business, labor, industry, education, government. In addition, training programs covering a wide spectrum of communication process are developed and tailored to the particular organization. Typical training programs would be preceded by assessment of an organization's communication needs, and followed by an evaluation program to determine the extent to which the identified needs have been met.

The Peer Group Research Laboratory was organized to conduct research in the use of the Peer Group instructional method. It has been concerned with both basic research and implementation of method, and has made available reports of its findings on a continuing basis.

The Persuasion and Propaganda Research Laboratory is concerned with investigating attitude change through communication process, and in developing improved research techniques. Typical research topics include: communicator credibility and attitude change, political persuasion, message analysis and evaluation, and measurement of variables in the persuasive process.

SPEECH AND HEARING SERVICES

The Speech and Hearing Clinic offers diagnostic and remedial services without charge to students with hearing, voice and/or articulation problems. Clinical services are available for a small charge for adults and children in the community. The Audiological Center is equipped to provide complete hearing test services, to give auditory training, and to fit and evaluate hearing aids.

A program for language and speech development has been initiated in the County School for Trainable Retarded Children. The clinic also serves as a training laboratory for students preparing for positions in research, teaching, or clinical practice in hospitals, private clinics, public schools and colleges and universities. Students wishing counseling or training should inquire at the Speech and Hearing Center in the School of Dramatic Art and Speech for further information.

PLACEMENT SERVICE

The Placement Service, located in Berry Hall, offers assistance to students, former students and graduates of the University to secure positions in business and industry.

A registration fee of \$2 entitles an applicant to this service while enrolled as a student and for one year after graduation. After the one year period, an additional charge of \$2 a year is made for each year in which assistance is requested.

The service maintains and promotes all possible connections with prospective employers for the benefit of persons seeking initial placement and for those looking toward advancement to better positions.

THE INTERNSHIP OFFICE

The Internship Program, an integral part of the Placement Service, helps place students in summer jobs which will provide them with experience toward long-range vocational objectives. The office has infor-

mation available on the procuring of summer positions for students in business, government, hospitals, social agencies and public relations.

The office will provide information, in conjunction with the Foreign Student Adviser, on opportunities to work and study abroad. Information is also available on graduate fellowships, scholarships, and loans. The office is located on the first floor of Berry Hall.

EDUCATIONAL PLACEMENT OFFICE

For information concerning the Educational Placement Office, see the College of Education section of this bulletin.

FOREIGN STUDENTS

Information concerning the admission of students from foreign countries may be obtained from the Director of Admissions, Ohio University. An Adviser to Foreign Students, located in McGuffey Hall, is available to help solve problems of foreign students.

VETERANS AND ORPHANS OF VETERANS

Veterans who enter Ohio University should report to the Office of the Director of Registration, Ewing Hall. Students who expect to be enrolled under Public Law 634 (orphans of veterans) should also report to this office upon arrival on campus.

CURRICULA

THE UNIVERSITY COLLEGE

Gaige B. Paulsen, *Dean*

Richard G. Nicholson, *Assistant to the Dean*

James S. Hartman, *Assistant to the Dean*

All freshmen enroll in the University College which concerns itself primarily with the progress of the students during their first year and until they qualify for advancement to a degree college or complete the requirements for the Associate in Arts degree. The freshman year in the University College and the following three years in one of the degree colleges represent the normal pattern for completing any of the baccalaureate degree programs.

The orientation of freshmen begins with the precollege counseling program in July-August for which admitted students are mailed reservation requests in early summer. Precolllege counseling includes a review of the student's preparation for college, a consideration of the various educational programs, the preparation of a class schedule, and a general acquaintance with the University and its requirements. A conference with a faculty member representing the area of the student's interests provides a final review of the student's plans for the fall quarter schedule. A parents program is also a part of the summer orientation.

During the first week of the quarter in which the student is first enrolled, other events and activities complete the initial orientation of the freshmen. A copy of the bulletin *Freshman Orientation and Studies*, which is provided for each freshman before he comes to the campus, outlines the schedule of events for the beginning student. All freshmen attend the convocation presenting the history and traditions of Ohio University and also the convocation at which the administrative officers are introduced and President Alden welcomes the new students.

Each University College student is assigned to a faculty counselor and meets with him before he starts his classes. This faculty

member will be available at other times during the quarter and will necessarily be consulted in preparing a schedule for the following quarter. Most students will be assigned to their counselors on the basis of their interests as revealed at the time they prepare their first schedules. For students who do not attend Precollege the assignment will be based on their statements in their application for admission. The final responsibility for planning schedules and meeting the University requirements will fall on the individual student but he will have both written materials and personal resources to help him in making his plans within the framework of the guidelines provided by the University.

The University College aims to provide a quality educational program that will be suited to the individual needs of the student. The courses in the freshman year are planned to provide studies generally recognized as essential to the educated person. Students are expected to consider it a broad preparation for later specialization. General course requirements complement the work done in high school and also take into account the specific educational objectives of the student.

General requirements of the University College which are scheduled by all students during their freshman year are:

	<i>Course Title</i>	<i>Credit</i>
1.	English Composition or English 70-80 Honors Freshman English I, II English 98-99	....3,3.....3,3
2.	Fundamentals of Speech Speech I	3
3.	Physical Education ..Three quarters of physical activity courses	

4. One year in each of two of the four following groups:

A. HUMANITIES

Modern Languages	1-2-3	.....	4,4,4
Philosophy	1,2,3	.....	3,3,3
The Great Books	7,8,9	.....	3,3,3
Latin or Greek	1-2-3	.....	4,4,4
Comparative Arts	17-18-19	.....	3,3,3

Students with less than two years of a foreign language in high school are required to complete a year of one subject in the humanities group.

B. MATHEMATICS

Mathematics 1	Elementary Algebra	.....	5
Mathematics 2	Euclidean Geometry	.....	5
Mathematics 3	Algebra	.....	3
Mathematics 5	Introduction to Mathematics	.....	3
Mathematics 6	Analytic Trigonometry	.....	2
Mathematics 20 A-B-C	Foundations of Elementary Mathematics	.....	3,3,3
Mathematics 60 A-B-C	Fundamental Concepts of Calculus	.....	3,3,3
Mathematics 63 A-B-C	Analytic Geometry and Calculus	.....	5,5,3

Students who have had no algebra or geometry in high school must complete Mathematics 1 and Mathematics 2 or their equivalent. Mathematics 1 and Mathematics 2 are offered only in the summer session. Students are strongly urged to complete algebra and Euclidean geometry in high school since completion of Mathematics 1 and Mathematics 2 is a graduation requirement which contributes no credit or points toward the bachelor's degree. Completion of Mathematics 1 and 2 is a requirement for qualifying for advancement to a degree college.

C. NATURAL SCIENCES

Biological Sciences	Biology 1-2-3	.....	3,3,3
	Botany 4-5-6	.....	4,4,4
	Zoology 3-4-5	.....	4,4,3
Physical Sciences	Chemistry 10-11-12 or	.....	4,4,4
	Chemistry 90-91	.....	4,4
	Geology 3-4-5	.....	3,3,3
	Physical Science 3-4-5	.....	3,3,3
	Physics 5-6-7	.....	4,4,4

Students with less than two years of laboratory science in high school must complete a year in one science in the area in which no science was taken in high school, i.e., if biological science was taken in high school the requirement is a year of a physical science course. (High school courses such as general science and senior science are excluded.) Exceptions to this requirement may be approved by the dean of the University College for students electing certain curricula. (engineering, physical education, architecture, and home economics) where there are substantial laboratory science requirements.

D. SOCIAL SCIENCES

Economics	1-2	.....	4,4
Geography	3,20,21	.....	3,3,3
Government	1-2	.....	4,4
History	1-2-3	.....	3,3,3
Psychology	1-2-3	.....	3,3,3
Sociology	1	.....	5
Anthropology	70	.....	5
Social Science	10	.....	4

Students with less than two years in any combination of social science courses in high school are required to complete at least two quarters of *one* subject with at least a total of eight credit hours in the social science field. Sociology 1, Anthropology 70 and Social Science 10 are considered one subject area.

In addition, many courses are available to freshmen which do not count toward meeting the group requirements or the removing of high school deficiencies. The student is encouraged to choose from these elective courses those which may help him determine his interests and capability for some major area of study.

The student may also make a selection from a particular group on the basis of future requirements of a particular curriculum. For example, a student who is expecting to pursue a program in arts and sciences and will therefore have a foreign language requirement may want to carry a language course to meet the humanities requirement. A student expecting to enter the College of Fine Arts may want to schedule Comparative Arts 17, 18 and 19 as his humanities

subject and the student planning on business administration may want to select Philosophy 1, 2, 3 as his humanities subject.

The student who is undecided or uncommitted as to his educational pattern will find that the University College program will afford him an opportunity to explore various fields of knowledge so that a wiser choice may be made. No schedule for the beginning student will be approved if it includes more than six quarter hours of courses not included in the general requirement or in any one of the four groups.

COUNSELING PROGRAM

This program is a continuation of the precollege counseling program which is designed to help the student make wise decisions regarding his academic plans. In addition, it encourages him to develop initiative and increasing responsibility for his personal development. Each student is assigned to a faculty counselor selected because of a professional interest similar to that of the student. Throughout the year the student confers with his counselor: at the beginning of each quarter for a review of schedule preparations, at the midterm (6th week) for a review of progress, and at other times when advice or assistance is needed. Personal conferences may also be arranged with members of the University College staff and special appointments may be made with the dean of the University College. Many students may continue to consult with their freshman faculty counselors since their degree college may assign the freshman faculty counselor as a degree college adviser when the student is advanced to that college.

STUDENT HOUR LOAD

It is important that the student establishes good study habits for a normal academic load of 15-16 quarter hours of credit.

So that the student may accomplish this proportion of his graduation requirement in each quarter and carry a load in line with his demonstrated ability in high school, a regular full-time student is required to schedule a minimum of 15 quarter hours

of credit. The maximum load will usually not exceed 17 hours. After the first quarter a student achieving a 2.5 may qualify for an 18 hour load, a 3.0 qualifies for a 19 hour load and a 3.5 qualifies for the maximum of 20 hours. Any exception to the above regulations—either to carry a load in excess of the maximum or less than the minimum—must be approved by the dean of the University College. No regular student may continue with a load of less than 12 credit hours. The maximum load for a student admitted as a special student is 11 credit hours.

ADVANCEMENT TO A DEGREE COLLEGE

At the end of three quarters a student may be advanced to the degree college of his choice provided he has earned 45 hours of credit, he is not on probation, and he has completed his mathematics requirement of high school algebra and Euclidean geometry. Advancement to the College of Education requires the completion of Psychology 1 and advancement to the College of Engineering and Technology for the engineering program requires the completion of Mathematics 63 B. Students must qualify for advancement following the completion of no more than eight quarters of work in the University College. Graduation from the University requires completion of all University College requirements and the student is advised to complete any unfulfilled University College requirements as listed in his advancement summary at the earliest opportunity since some of the basic courses are closed to enrollment by juniors and seniors.

TERMINAL PROGRAM LEADING TO THE ASSOCIATE IN ARTS DEGREE

The University College offers a program of study for the student who does not intend to complete a four-year degree program and who plans to spend only two years in the University. Its completion leads to the Associate in Arts degree.

The Associate in Arts program includes English composition, physical education,

speech, and other general education and career courses. The same standards of academic achievement as for the bachelor's degree are required during the progress of the program. The student must complete 90 hours with a minimum of 180 grade points in no more than eight regular quarters. Application for the degree is made at the office of the registrar at the time announced for all degree candidates and must be accompanied by a fee of \$7.50.

The curricula for terminal programs furnish the student with a background to certain professional schools or for employment in a special position. Curricula included are general business, home economics, journalism (with work in either advertising or radio speech), metalworking, premortuary science, prepharmacy, preveterinary medicine, and recreation leadership. Additional curricula are included and other special

programs may be planned to meet the needs of the student.

When the student decides to pursue one of these programs, he confers with his counselor and prepares an outline of courses which he will carry to complete the program. This outline is filed with the University College office. Credit earned while enrolled in a terminal program may be counted on a four-year degree course, subject to the approval of the dean of the degree college in which he later enrolls. A student who shifts to a degree program is required to complete all University College requirements. This shift from a terminal program to a degree program may involve spending additional time in completing the degree requirements, since some of these requirements are normally completed in the first two years and may not have been a part of the Associate in Arts program.

THE COLLEGE OF ARTS AND SCIENCES

George R. Klare, *Dean*

Jesse H. Day, *Associate Dean*

J. Norman Farmer, *Associate Dean*

William R. Jones, *Assistant to the Dean*

The College of Arts and Sciences includes the following departments:

- Botany
- Chemistry
- Classical Languages
- English Language and Literature
- Geography and Geology
- Government
- History
- Mathematics and Astronomy
- Modern Languages
 - French
 - German
 - Italian
 - Russian
 - Spanish
- Philosophy
- Physics
- Psychology
- Sociology and Anthropology
- Zoology
- Bacteriology

Since a student enrolled in any college at Ohio University may elect courses in any other college with considerable freedom, much of the coursework required by the other colleges is offered by the faculty of the College of Arts and Sciences. A student pursuing a degree in this college may elect courses, and in some instances may complete a major, in departments of the other colleges.

A student entering the College of Arts and Sciences is assigned an advisor who teaches in the area of the student's major. Faculty advisers will assist in the preparation of a schedule each quarter so that proper sequences of courses in the major and appropriate related courses are selected. THE STUDENT IS RESPONSIBLE FOR SEEING THAT ALL REQUIREMENTS FOR

THE DEGREE ARE BEING MET. The College offers two degrees — the Bachelor of Arts (A.B.) and the Bachelor of Science (B.S.). The requirements for the degrees represent a distribution of studies, with sufficient concentration to insure a degree of mastery of at least one area. In order to receive a degree in the College of Arts and Sciences, a student must have a minimum point-hour ratio of 2.0 (C) on:

1. All hours attempted at the college level
2. All hours attempted at the college level in the major.
3. All hours attempted at Ohio University
4. All hours attempted at Ohio University in the major.

Only the final hours and points in repeated courses are counted. For repeated courses see the University Regulations Section of this bulletin. Note also that courses taken at Ohio University and repeated at another college do not result in deduction of the first grade earned.

The normal resident load requirement for a student enrolled in the College is as described in the University Regulations Section of this bulletin. Note also that courses audited or taken by correspondence are *not* included in the *minimum* required hours.

Students who do not complete all University College requirements in the freshman year are expected to have these completed before being advanced to junior standing. Students who have requirements which involve courses numbered below 100 should start meeting such requirements not later than the beginning of the sophomore year. This is particularly recommended in the case of foreign language. Registration by juniors or seniors in courses numbered below 100 is discouraged and in some cases prohibited.

Students faced with problems concerning degree requirements may discuss them with the dean of the college.

REQUIREMENTS FOR THE BACHELOR OF ARTS AND THE BACHELOR OF SCIENCE DEGREES

A total of 180 quarter hours is required for either degree. At least 90 quarter hours of Arts and Sciences courses must be num-

bered above 100. Non-Arts and Sciences courses which satisfy the area requirements listed below also count toward the 100 level requirement. All other non-Arts and Sciences courses are considered as electives. These are not counted toward the 100 level requirement, but are counted toward graduation.

The area requirements are:

- (a) foreign language
- (b) humanities
- (c) social sciences
- (d) natural sciences
- (e) major

Education courses which are required for teacher certification may be applied toward the 100 level requirement ONLY when the student has met all requirements for teacher certification. Economics majors may apply to the 100 level requirement any 3 courses from: Finance 341, 345; Quantitative Methods 100, 101; and any advanced offering in Statistics. Further exceptions may be made only on review by and approval of the dean of the college. Students wishing to pursue special programs should consult with the dean of the college.

A maximum of 12 quarter hours in applied music, 3 quarter hours in physical education activities (in addition to the hours required), and 9 quarter hours in industrial arts are accepted toward the 180 hour requirement.

At least 9 quarter hours in the major field must be in courses above 300. Additional hours may be required by the department.

Not more than 60 hours in any one department may be counted toward the A.B. degree; and no more than 68 hours in one department may be counted toward the B.S. degree.

No course may satisfy more than one of the area requirements in foreign language, humanities, social sciences, natural sciences or the major. For example, a French major may not apply any courses in French toward the foreign language requirement. For teacher certification students certain courses in the "comprehensive major" may fulfill requirements for the appropriate area; stu-

dents will need to consult with their advisers on this point.

The specific requirements for the degree are 3-6 hours of English composition courses numbered from 70-80, or 89; the physical education activities courses; and 3 hours of speech fundamentals (or waiver). The foreign language requirement for the A.B. degree is a complete sequence through 103 in one language (0-24 hours). For the B.S. degree 2 college years or the equivalent (0-24 hours) are required.

The student may plan his college sequence according to the following table:

Language completed in high school:	Begin college sequence at:
0-1 year	Course 1 or, with permission, Course 2.
2-3 years	Course 101 or, with permission and 3 years of high school language, Course 102.
4 years	Proficiency test to satisfy requirement, a 2 quarter course at the 200 level, or course 196.

Upon entering Ohio University, a foreign student whose native tongue is not English may satisfy the foreign language requirement by demonstrating competence in English. This must be approved by the chairman of the English Department. The student may also satisfy the foreign language requirement by taking a foreign language other than his own.

Achievement of proficiency in a foreign language equivalent to that attained upon completion of two college years of ONE language is required to meet the foreign language requirement for an A.B. degree candidate. Two years of high school language are equivalent to one year of college language. A student who has completed 4 years of one language in high school may complete the foreign language requirement either by passing an examination in that language or by completing one course at the 200 level. If the student elects to take the test, he is encouraged to do so as soon as possible after entering the University, and must take it prior to the quarter of gradu-

ation. An exception to the foreign language requirement is made for the student with two years of high school Latin who may complete the requirement by taking one year of college Greek.

B.S. degree candidates may meet the foreign language requirement with proficiency of a foreign language equivalent to two years of college language. Students who enter with two years of high school language but less than four years have a one year requirement of another college language (or should complete the same language through course 103.). Students who enter with less than two years of high school language have a two year requirement of college language. A student continuing the same language in college as in high school must complete the language through course 103. A student who has completed two years of one high school language may change his language in college and take one year of another language, through course 3. Credit is not extended toward meeting the foreign language requirement for the first and second quarters of a beginning language unless the third quarter is completed.

The humanities requirement may be met by a selection of 18 quarter hours from two or more areas, with at least 9 hours in one of the areas, from among archaeology, English courses above 100, foreign language courses beyond those to meet the requirement, philosophy, Humanities 7, 8, 9 or 107, 108, 109, comparative arts courses in the history and appreciation of fine arts. Music 20 may be taken unless Comparative Arts 221, 222, 223 has been previously completed. Greek 27 may also be included.

A minimum of 18 quarter hours from two or more of the following courses, with at least a one-year course in one area and a one-quarter course in another area will meet the social science requirement: economics, history, geography (except 111, 112), government, psychology (except 121, 126, 128, 312 or 314), sociology, and Social Science 10.

To meet the natural science requirement, the student should select a minimum of 18 hours from two or more areas with at least a one-year course in one area and

a one-quarter course in another area. A minimum of a one-year course in a physical science must be completed in either high school or college. If either requirement was not completed in high school, it must be completed in college as part of the 18 hour requirement, and must be in courses which include laboratory work as part of the course. If the requirement was completed in high school, the 18 hour requirement may be met in two or more of the areas listed below. Students who have had no geometry and/or algebra in high school must take Mathematics 1 and/or 2 in order to make up the deficiency. These courses will not count toward the 180 hour requirement. Students who have started the Biology 1,2,3 sequence may switch to botany or zoology by taking Botany 5 and 6 or Zoology 4 and 5 if he has had Biology 1. If the student has taken Biology 1 and 2, he may take Botany 5 and 6 or he may take Zoology 5. He may take Botany 6 or Zoology 5 if he has taken Biology 1, 2 and 3. In order to switch from the Biology sequence to the Zoology sequence, a student must pass a qualifying examination.

The biological science courses which are available to fulfill the natural science requirement are Biology 1, 2, 3, Botany, Psychology 126, 128, 312 or 314, and Zoology. Courses to meet the physical science requirement may be selected from among astronomy, chemistry, Geography 111 or 112, geology, physics, Psychology 121 and mathematics (except 1, 2, 20A,B,C).

The College requires a minimum of 36 quarter hours to be completed in one area to constitute a major. This includes 9 quarter hours which must be taken at the 300 level. Specific departmental requirements must also be met. They are described under the Courses of Instruction section of this bulletin. Each student is to consult the appropriate bulletin and an adviser in his major field. Methods courses are not included in the major. Arts and Sciences methods courses may be applied to the 100 level requirement by the student pursuing teacher certification.

Students wishing to earn a dual major in two related fields must consult with the chairman of each department involved, and

the dean of the college. The College requires a minimum of 23 quarter hours (including 9 hours above 300) beyond the introductory course in both fields. Specific requirements are left to the discretion of the departments concerned. Most departments stipulate that the student must complete the requirements for the full major in both areas even though he is pursuing a dual major. The student should arrange such a program in close consultation with his department chairmen and the dean of the college. Courses taken in either or both of the fields, even though not required for the major, cannot be used to complete the general area requirements in language, humanities, social sciences, or natural sciences.

There is no formal minor requirement.

A transfer student is required to complete at least 12 quarter hours toward the major in courses at the 100 level or above at Ohio University, with a point-hour ratio of at least 2.0. These courses should be approved by the department chairman. A transfer student completing the dual major is required to complete at least 9 quarter hours at the 100 level or above in each of the two departments at Ohio University, with a point-hour ratio of at least 2.0. These courses should be approved by the chairmen of the two departments.

A major for the A.B. degree may be completed in botany, chemistry, classical languages, English language and literature, geography, geology, government, history, mathematics, modern languages, philosophy, physics, psychology, sociology and anthropology, zoology, interpersonal communication, theater, economics, home economics, journalism, music or art.

A major for the B.S. degree may be completed in botany, chemistry, geology, mathematics, physics, zoology or home economics.

The specific requirements in the departments in the College of Arts and Sciences are indicated for each major in the course descriptions section of this bulletin. Special curricula requirements (pre-med, pre-law, etc.) are explained in the following special curricula section. Requirements for a major in the departments outside the College are

determined by a special adviser in each department.

Transfer students must maintain a 2.0 point-hour ratio, taking into account deductions and repetitions in all work attempted, both at Ohio University and elsewhere, and on all work attempted in the major field at Ohio University and elsewhere. Transfer students who have completed less than 6 quarter hours and who have completed a beginning course in English must complete English 80.

DEGREE IN ABSENTIA

Students who wish to earn a degree *in absentia* must complete 135 quarter hours at Ohio University. A point-hour ratio of 2.0 or better must be maintained on all attempted, and all work in the major. All College area requirements must be completed, except the 100 level requirement, of which 45 hours must be completed above 100. A full year's work in an accredited school of dentistry, law or medicine, or other accredited graduate or professional schools described on the following pages must be completed, and the student must be advanced to the second year of training at the professional school without condition. For the Medical Technology and Physical Therapy degree *in absentia*, the student must successfully complete the professional program and the registry examination. A statement must be secured from the dean of the college before entering the professional school granting the degree *in absentia* privilege.

CENTER FOR INTERNATIONAL STUDIES

Ohio University has been keenly aware of the need to provide its students with the means to acquire an understanding of world affairs. With a view to encouraging curriculum development and expert instruction, supporting and expanding faculty research, and informing the people who live in the Ohio University region, the Center for International Studies was established in the College of Arts and Sciences in 1964. In creating the

Center, the University was able to draw upon faculty and other resources acquired over many years of international activity, including participation in U. S. technical aid projects and Peace Corps programs.

A prime goal of the Center is to achieve excellence in faculty and curricula, for these are the principal means by which the University can enlighten and discover. At the present time, the Center pursues this goal by sponsoring and supporting area studies centers and by exercising responsibility in policy matters affecting the development of foreign and international studies in the College of Arts and Sciences. The first area center—the African Studies Center—was begun in 1964. The second, the Southeast Asia Center, was established in 1966. Additional area centers are contemplated. Each of the area centers places emphasis on language instruction and offers courses in the several disciplines in the social sciences and humanities. The area centers cater chiefly to undergraduate and Master of Arts degree students.

The Center obtained approval in 1966 to offer the degree of Master of Arts in Foreign Affairs. The degree requires course and seminar work in several disciplines and knowledge of a foreign language. It is for those who seek careers in the U. S. foreign service or in international agencies as well as in foundations and private enterprises with foreign operations. It is also useful to those who wish to obtain an interdisciplinary knowledge of several foreign areas before specializing in a single discipline and area in study for the doctorate. Candidates for the degree may take a concentration of courses in any of the area study programs.

The Center publishes occasional papers and sponsors lectures, seminars, colloquia, and exhibitions of foreign art. Students and visiting faculty from abroad as well as other foreign visitors are welcomed.

AFRICAN STUDIES

Stemming from Ohio University's commitments to the educational development of Nigeria and Cameroon, in 1964 an African Studies Center was established to further research and teaching of Africa-related sub-

jects in the various disciplines. Since 1965 this Center has been funded by a NDEA Title VI Grant from the U.S. Office of Education. This has enabled the Center to finance library acquisitions and to support the development of new and expanded courses in African economics, geography, government, history, languages, and sociology/anthropology. Prominent figures in African affairs are brought to campus for lectures and discussions. A faculty seminar, to which interested students are invited, publishes works relating to Africa.

SOUTHEAST ASIA STUDIES

Ohio University has for many years counted among its faculty persons expert and distinguished in Southeast Asian studies. In recognition of the importance of this region of the world and as a part of the University's planned development of international studies, the decision was made in 1966 formally to establish a Southeast Asia Area Studies Center. This means that the number of faculty members with Southeast Asian expertise as well as the number of course and seminar offerings on Southeast Asia will be increased several-fold beginning in the academic year 1967-68 and continuing for the next several years. Emphasis will be placed on language instruction in the belief that a good area studies program begins with well-conceived and well-taught courses on the languages of the area. Courses in sociology, anthropology, history, government, economics and geography will be added to the curriculum initially. Within a year or two, courses in the humanities, especially in art, philosophy and religion, will be included in the curriculum. Beginning in the winter of 1966-67, an intensive faculty recruiting effort was begun.

Ohio University's Southeast Asia Area Studies Center is intended primarily for undergraduate and Master of Arts degree students. At the present time, no degree is offered in Southeast Asian studies at any level. Beginning graduate students may, however, seek a Master of Arts in Foreign Affairs which permits a concentration of courses and seminars concerned with South-

east Asia. The Southeast Asia Area Studies Center is supported by and is a part of Ohio University's Center for International Studies.

SPECIAL CURRICULA PREPARATION FOR BACTERIOLOGY

The program leads to a Bachelor of Science degree, majoring in the Zoology Department, and prepares students for work in food and drug industries, and public health laboratories at the municipal, state, and federal levels. In addition to the major requirements and bacteriology courses, mathematics at least through 60C or 63C, organic chemistry and quantitative analysis, a year of physics, and a physiology course other than bacterial physiology should be taken. By early consultation with the adviser, courses in bacteriology, biochemistry, and parasitology should be chosen.

Students planning to take graduate training in microbiology should obtain an extensive undergraduate background in mathematics, chemistry, including physical chemistry, and physics. Extensive course work in bacteriology is not required and may be limited to 311 and 312.

PREPARATION FOR DENTISTRY

The minimum requirements for admission to dental school are the completion of at least 90 quarter hours of academic credit, exclusive of physical education and military science, which must include general chemistry, qualitative analysis, organic chemistry, including laboratory, physics, zoology, including comparative vertebrate anatomy, and English. A broad training in courses other than natural science is urged. A student who wishes to attend a particular dental school should plan his program to meet the entrance requirements of that school. Predental students have the degree-in-absentia privilege.

All dental schools require applicants for admission to take the Dental Aptitude Test, which is offered during the academic year previous to the time the student plans to enroll in dentistry.

The following sequence of courses is recommended. The requirements in English composition, physical education, and speech are not included (see University College section of the catalog).

FRESHMAN

Chem. 10-11-12—General and Qualitative Analysis	12
Math. 60 A-B-C—Fundamental Concepts of Calculus	9
Zool. 3-4—General	8
Requirements and/or electives*	

SOPHOMORE

Chem. 201-202—Organic (short)	6
Chem. 203-204—Organic Laboratory	3
or	
Chem. 205-206-207—Organic (long)	9
Chem. 208-209—Organic Laboratory	4
Phys. 5-6-7—Introduction	12
Zool. 125—General Genetics	5
Zool. 103—Comparative Vertebrate Anatomy	6
Requirements and/or electives (Art 121 suggested)**	

JUNIOR

Zool. 304—Comparative Anatomy—Mammalian	6
Zool. 311—General Bacteriology†	5
Zool. 346—Comparative Physiology	6
Requirements and/or electives**	

*See requirements in the University College section of the catalog.

**See requirements for Bachelor of Science or Bachelor of Arts degree.

†Suggested.

PREPARATION IN ENGINEERING PHYSICS

In order to meet the growing demand from industrial concerns, from national laboratories, and from agencies such as DoD, AEC and NASA for engineering-oriented scientists who have a broad basic education in fundamental science with less emphasis upon specialized technical training, this curriculum offers the student a wide variety of opportunities particularly in industrial and governmental laboratories. It is assumed that the high school graduate entering this program has had four years of mathematics and two years of foreign language. The program leads to the Bachelor of Science degree.

FRESHMAN

E.G. 1 and E.G. 2—Engr. Drawing	6
Math. 63 A-B-C—Analytical Geometry and Calculus	13
Phys. 113—General	5
Requirements and/or electives (Foreign language, if required)*	

SOPHOMORE

Chem. 10-11-12—General and Qualitative Analysis	12
Math. 163 A-B—Analytical Geometry and Calculus	6
Math. 240—Advanced Applied	5
Phys. 114-115—General	10
Phys. 120—Intermediate Laboratory	1
Requirements and/or electives**	

JUNIOR

Chem. E. 331—Prin. of Engr. Materials	4
Math. 441—Fourier Analysis	6
Phys. 301-302—Mechanics	6
Phys. 316—Contemporary Physics	3
Phys. 319-320—Elec. and Magnetism	6
Requirements and/or electives**	

SENIOR

E.E. 340—Electronic Devices	3
E.E. 405—Physical Electronics	3
Mech. E. 201—Kinematics	3
Phys. 449-450—Quantum Physics	6
Phys. 460—Special Problems	2
Phys. 421-426—Advanced Laboratories—Choose one of each	4
Choose one of the following—	

Phys. 325—Relativity	2
Phys. 433—X-rays	2
Phys. 410—Thermodynamics	3
Phys. 412—Kinetic Theory and Stat. Mech.	3

Choose two of the following—	
Phys. 321—Optics	3
Phys. 420—Acoustics	2
Phys. 453—Nuclear and Particle Physics	3
Phys. 461—Solid State	3

Requirements and/or electives**

*See requirements in the University College section of the catalog.

**See requirements for Bachelor of Science degree.

PREPARATION FOR FORESTRY

Ohio University has a cooperative arrangement with the School of Forestry of Duke University for the program described below and this type of program may be extended to other schools of forestry.

The curriculum outlined will prepare a student for admission to the School of Forestry of Duke University at the completion of the junior year. This will permit the student

to receive the Bachelor of Science degree from Ohio University at the conclusion of one academic year at Duke, and the master's degree from Duke University upon completion of an additional one and one-half years of academic work in the program.

FRESHMAN

Bot. 4,5,6—General	12
Chem. 10-11-12—General Chemistry and Qualitative Analysis	12

University College requirements as given in the University College section of the catalog.

Math. 3 or 5 will be required as a prerequisite for Math. 60 (see sophomore program) unless the student has had two years of high school algebra and one year of high school geometry.

SOPHOMORE

Bot. 110—Plant Morphology I	3
Bot. 170—Introductory Plant Taxonomy ...	4
Econ. 201-202—Principles	8
Math. 60 A-B-C—Fundamental Concepts of Calculus	9
Zool. 125—General Genetics	5
Electives*	

JUNIOR

Bot. 270—Dendrology	4
Bot. 330—Cytology	3
Bot. 391 or 392—Seminar	1
Physics 5-6-7—Introduction	12
*Electives to fulfill degree requirements as stated in the University catalog under the College of Arts and Sciences. Plant physiology and ecology, necessary for a major in botany, may be taken at Ohio University or during the first year at Duke University.	

PREPARATION FOR GOVERNMENT FOREIGN SERVICE

Students desiring to prepare for the foreign service officer examinations, which are given yearly, are advised to acquire as broad an education as possible. Facility in written and spoken English, competency in a foreign language, and a good background in economics, history, government, business or public administration are essential.

PREPARATION FOR LAW

A student in the College of Arts and Sciences who plans to enter law school normally completes the specific requirements for the degree of Bachelor of Arts. No special curriculum is prescribed. The prelaw student may complete a major in the area of his principal interest. He is advised to select

courses from as many of the following as possible: English composition and literature and American literature; history, with a preference for English and American; government; economics; sociology; at least one laboratory science and an additional advanced course is advised; mathematics; philosophy; ethics; logic; accounting; psychology; and a foreign language. Courses in speech and training in expression, as well as activities that develop the capacity for independent thought and action, are recommended.

The Ohio Supreme Court has ruled that a student entering law school must be able to show that he possesses an undergraduate degree from an approved college if he wishes to take the Ohio Bar Examination. Law schools in the state of Ohio require the degree of all entering students regardless of the state in which they plan to take the bar examination.

The degree-in-absentia privilege is available to students who do not plan to seek admission to an Ohio law school. Students who have completed 141 quarter hours at Ohio University with a point-hour ratio of 2.0 or above, on all hours attempted, and have satisfied the requirements for the degree of Bachelor of Arts or Bachelor of Science (including University College requirements) may obtain the degree after completing a full year's work of the quality prescribed for the bachelor's degree at Ohio University in an accredited school of law, including advancement, without condition, to the second year of law school. Prior to entering the school of law, the student must secure a statement in writing from the dean giving the senior-in-absentia privilege.

PREPARATION FOR MEDICAL TECHNOLOGY

Preparation in medical technology trains students in laboratory methods used in hospitals, physicians' offices, public health bureaus, and other laboratories concerned with medical diagnosis and investigation.

Technologists who wish to be recognized by the American Society of Clinical Pathologists and entitled to use the initials, M.T., must have had a minimum of 140 quarter

hours of work in a college or university recognized by the regional accrediting association, and a year's training in an approved school of medical technology.

The Ohio University—Mount Carmel Hospital Affiliated Training for Medical Technologists fulfills these requirements and affords the student an opportunity to earn the bachelor's degree. After completing six semesters (a minimum of 140 quarter hours, with a point-hour ratio of 2.0 or above in all hours attempted, including the major, and with all area requirements fulfilled) at Ohio University, the prospective technologist secures a statement of approval from the dean of the College of Arts and Sciences to complete the remaining work off campus, and while still registered in the University, prospective technologists spend 12 months in residence at Mount Carmel Hospital, Columbus, Ohio. Upon satisfactory completion of the University and hospital training requirements, the student is eligible to receive from Ohio University the degree of Bachelor of Science and to take the qualifying examination given by the Board of Registry of the American Society of Clinical Pathologists for the professional designation of Medical Technologist. Credit toward the degree for the hospital training program is extended only in case all basic science courses which are required for admission to the Mount Carmel Hospital affiliated training program are completed previous to the hospital residence.

Approval may occasionally be granted for completion of the hospital training at hospitals other than Mount Carmel if such hospitals have approved programs in medical technology and if, for reasons of location or other factors, this would better meet the needs of the student.

The W. K. Kellogg Foundation of Battle Creek, Michigan, has granted the University the sum of \$4,000 to be used as a loan fund for students during their year at Mount Carmel Hospital. Application for aid is filed with the chairman of the Department of Zoology. Expenses to be met during the year in Columbus are room rent and a small sum for books and laboratory gowns. No fees are

charged by Mount Carmel Hospital, nor does it provide remuneration, except that it furnishes board.

The requirements pertaining to English, physical education, and speech in the freshman year are not indicated in the curriculum below. (See the University College section of the catalog.)

FRESHMAN

Chem. 10-11—General	8
Chem. 12—Qualitative Analysis	4
Math. 3—Algebra	3
or	
Math. 5—Introduction	3
Zool. 3-4—General	8
Zool. 5—General (elective)	3
Requirements and/or electives*	

SOPHOMORE

Chem. 201-202—Organic	6
Chem. 226—Quantitative Analysis	5
Zool. 125—General Genetics	5
Zool. 100—Elements of Anatomy	5
Requirements and/or electives**	

JUNIOR

Zool. 305—Histological Technique	2
Zool. 309—Histology	6
Zool. 311—General Bacteriology	5
Zool. 313—Pathogenic Bacteriology	5
Zool. 341—Animal Parasites	6
Zool. 347—Comparative Physiology	3
Zool. 363—Biochemistry Lecture	3
Zool. 367—Biochemistry Laboratory	3
Requirements and/or electives**	

SENIOR

Med. Tech. 391—Urinalysis	3
Med. Tech. 392—Hematology	12
Med. Tech. 393—Bacteriology, Serology and Parasitology	15
Med. Tech. 394—Chemistry	15
Med. Tech. 395—Histological Technique	2
Med. Tech. 396—Basal Metabolism and Radioisotopes	1

*See requirements in the University College section of the catalog.

**See requirements for the Bachelor of Science degree.

PREPARATION FOR MEDICINE

Most medical colleges require the bachelor's degree for admission, and all others require a minimum of three academic years.

For most colleges, the requirements for admission include general chemistry, qualitative analysis, organic chemistry, including laboratory, physics, zoology, comparative

vertebrate anatomy, embryology and English. Courses in economics, fine arts, government, history, literature, philosophy, and sociology are advised. A year's course in mathematics is required by some and urged by most schools. A student who plans to complete only three years at Ohio University before entering medical college is urged to meet requirements so as to be eligible for the degree-in-absentia privilege.

All students who apply for admission to medical college are required to take the Medical College Admission Test (MCAT) in May or October of the calendar year previous to the time they expect to enroll in medical college.

No specific area for the major is required by the medical college or by Ohio University in undergraduate preparation for medicine. The student must present preparation in various basic sciences, and many students do complete a major in one science or a dual major in two sciences.

The following sequence of courses is recommended. The requirements in English composition, physical education, and speech are not indicated in the suggested curriculum (see University College section of the catalog). If the student has a particular medical school in which he wishes to enroll he should plan his program to meet the specific requirements of that school.

FRESHMAN

Chem. 10-11-12—General and Qual. Analysis	12
Math. 60 A-B-C—Fundamental Concepts of Calculus	9
Zool. 3-4—General	8
Greek 27—Greek Words in English	3
Requirements and/or electives (a student with a foreign language requirement is advised to include it)*	

SOPHOMORE

Chem. 226—Quantitative Analysis	5
Greek 27—Greek Words in English (If not taken in freshman year)	3
Zool. 103—Comparative Vertebrate Anatomy	6
Zool. 125—General Genetics	5
Requirements and/or electives (courses in English and Fine Arts 17-18-19 are recom- mended)**	

JUNIOR

Chem. 201-202—Organic	6
Chem. 203-204—Organic Laboratory	3
or	
Chem. 205-206-207—Organic	9
Chem. 208-209—Organic Laboratory	4
Phys. 5-6-7—Introduction	12
Zool. 346—Comparative Physiology	6
Requirements and/or electives**	

SENIOR

Chem. 351—Physical	4
Zool. 304—Comparative Vertebrate Anatomy—Mammalian†	6
Zool. 306-307—Vertebrate Embryology I,II†	6
Zool. 311—General Bacteriology***	5
Requirements and/or electives**	

*See requirements of University College.

**See requirements for Bachelor of Science or Bachelor of Arts degree.

***Suggested.

†Students leaving at end of third year should elect these courses in the junior year.

PREPARATION FOR NURSING

Ohio University does not have a school of nursing; however, students interested in nursing can obtain the Bachelor of Arts or the Bachelor of Science degree from Ohio University and then complete nurses' training in an approved school of nursing. In many cases the time required for the hospital training is shortened as a result of the student entering the program with a bachelor's degree.

A recommended alternative is the completion of two years of prescribed college work at Ohio University and transfer to a collegiate school of nursing which grants the Bachelor of Science in Nursing degree upon completion of the program. The professional program in the collegiate school of nursing requires 32 months for completion, including vacation periods.

A student who has completed a hospital school of nursing program and wishes to enroll at Ohio University for a degree in the College of Arts and Sciences will be granted a limited amount of credit toward the degree, following a review of her record by the University examiner and the dean of the College.

The following curriculum includes courses which provide background for a nursing program and will lead to the completion of the bachelor's degree at Ohio University. If the first two years of the program

are completed, a student will be prepared for admission to a collegiate school of nursing.

FRESHMAN

Math. 5—Introduction	3
Chem. 10-11-12—General and Qualitative Analysis	12
Psych. 1—General	3
Psych. 175—Educational	4
Zool. 3-4—General	8
Requirements and/or electives*	

SOPHOMORE

Chem. 201-202—Organic	6
Chem. 203-204—Organic Lab	3
Eng.—Composition	3-6
Zool. 125—General Genetics	5
Zool. 311—General Bacteriology	5
H. Ec.—Foods, Nutrition and Meal Planning Requirements and/or electives**	

JUNIOR

Zool. 346—Comparative Physiology	6
Zool. 313—Pathogenic Bacteriology	5
Requirements and/or electives**	

SENIOR

Requirements and/or electives**

*See requirements in the University College section of the catalog.

**See requirements for the Bachelor of Arts or the Bachelor of Science degree.

PREPARATION FOR OCCUPATIONAL THERAPY

Colleges offering programs in occupational therapy require two years of college work in preparation for the two years of professional work leading to the degree. The first two years may be taken at Ohio University, after which transfer can be made to another institution where the work will be completed and the degree conferred. The first two years of college should include English composition and courses in literature; Chemistry 10-11-12 or Physics 5-6-7; physical education; courses in psychology, sociology, and Zoology 3-4-5 and 125. The remainder of the credit to complete the minimum of six quarters may be elected from education, foreign language, science, etc. (The particular requirements of the school to which the student may wish to transfer should be followed in planning the program at Ohio University.)

Further information relative to requirements and the profession of occupational therapy may be obtained by writing the American Occupational Therapy Association, 250 West 57th Street, New York, New York 10019.

PREPARATION FOR OPTOMETRY

The requirements for admission to schools of optometry are not uniform. A minimum of 90 quarter hours exclusive of military science and physical education is required. The following suggested curriculum will meet the admission requirements for a collegiate program and consequently of most independent schools of optometry.

FRESHMAN

Math. 60 A-B-C—Fund. Concepts of Calculus	9
Chem. 10-11-12—General and Qual. Analysis	12
Eng. 70-80—Composition	6
Foreign Language	
Speech	

SOPHOMORE

Chem. 201-202—Organic (short)	6
Chem. 203-204—Organic Laboratory	3
Phys. 5-6-7—Introduction	12
Zool. 3-4—General	8
Foreign Language	
Humanities	
Social Science	

Further information relative to requirements and the profession of optometry may be obtained by writing to the American Optometric Association, Department of Public Information, 4030 Chouteau Avenue, St. Louis 10, Missouri 63110.

PREPARATION FOR PHARMACY

Most schools of pharmacy require 90 quarter hours of academic credit, exclusive of physical education and military science, for admission. The following program will meet such requirements.

FRESHMAN

Bot. 3-4-5—General	12
Chem. 10-11-12—General and Qualitative Analysis	12
Eng. 70-80—Composition	6
Math. 60 A-B-C—Fund. Concepts of Calculus	9
Social Science	6
Zool. 3-4—General	8
and University College requirements	

SOPHOMORE

Chem. 205-206-207—Organic	9
Chem. 208-209—Organic Laboratory	4
Econ. 1-2 or 201-202—Principles	8
Phys. 5-6-7—Introduction	12
Zool. 100—Elements of Anatomy	5
or	
Zool. 103—Comparative Vertebrate Anatomy	6
Humanities and/or social science	

PREPARATION FOR PHYSICAL THERAPY

The following program, extending over a period of three years at Ohio University, is recommended to those students who wish to enter the field of physical therapy. Upon completion of 130 quarter hours, if a scholastic average of 2.0 or better on all hours attempted has been maintained, the student is eligible for admission to a school of physical therapy fully accredited by the American Medical Association. Upon satisfactory completion of the three year program at Ohio University, including degree requirements, and the course in physical therapy, Ohio University will award the student the bachelor's degree.

FRESHMAN

Chem. 10-11-12—General and Qual. Analysis	12
Math. 60 A-B-C—Fund. Concepts of Calculus	9
Psych. 1—General	3
Zool. 3-4—Principles	8
Requirements and/or electives (a course in swimming is advised for the physical education requirement)* Registration in Zool. 5 is suggested.	

SOPHOMORE

Psych. 173—Child	5
Soc. 101—Principles	5
Zool. 101—Human Anatomy	6
Zool. 102—Kinesiology	3
Zool. 145—Human Physiology	4
Zool. 125—Principles of Heredity	5
Zool. 211—Elementary Bacteriology	4
Requirements and/or electives (Psych. 71, Educational, is advised)**	

JUNIOR

Phys. 5-6-7—Introduction	12
Speech—Introduction to Speech Disorders	3
Requirements and/or electives (activity courses in physical education and Phys. Ed. 202 are advised)**	

*See requirements in the University College section of the catalog.

**See requirements for the Bachelor of Arts or the Bachelor of Science degree.

PREPARATION FOR PHYSICS TECHNOLOGY

The curriculum below will qualify students for many physics career opportunities in industry or government laboratories and provide excellent preparation for graduate study.

FRESHMAN

Phys. 113—General (For students with good mathematics background)	5
or	
Phys. 5-6-7—Introduction	12
Math. 63 A-B-C—Analytic Geometry and Calculus	13
Requirements and/or electives (foreign language if required)*	

SOPHOMORE

Phys. 114-115—General	10
or	
Phys. 219—Intermediate	3
Phys. 220—Intermediate Laboratory	1
Math. 163 A-B—Analytic Geometry and Calculus	6
Math. 240—Differential Equations	5
Requirements and/or electives **	

JUNIOR

Phys. 301-302—Mechanics	6
Phys. 319-320—Electricity and Magnetism	6
Math. 440—Vector Analysis	3
Math. 441—Fourier Analysis and Partial Differential Equations	3
Choose physics electives from the following:	
Phys. 303—Digital Computing Methods in Physics	2
Phys. 321—Optics	3
Phys. 325—Relativity	2
Phys. 429-430-431—Elect. Meas. and Electronics Lab.	7
Phys. 433-434-435—Atomic and Nuclear Laboratory	6
Requirements and/or electives **	

SENIOR

Phys. 411—Thermodynamics	2
Phys. 412—Kinetic Theory and Stat. Mech.	3
Phys. 449-450—Quantum Theory	6
Choose physics electives from the following:	
Phys. 421—Optics Laboratory	2
Phys. 422-423—Spectroscopy Laboratory	4
Phys. 420—Acoustics	3
Phys. 451—Theoretical Classical Physics	4
Phys. 453—Nuclear and Particle Physics	4
Phys. 461—Solid State	4
Requirements and/or electives **	
*See requirements in the University College section of the catalog.	
**See requirements for the Bachelor of Science degree.	

PREPARATION FOR SANITARIANS

A four year curriculum leading to the Bachelor of Science degree with a major in zoology (see general requirements under Zoology), the program prepares students for work as public health sanitarians. Technical knowledge acquired can be applied to solve problems of a sanitary nature and to carry out procedures for the control of man's environment which affect his health.

FRESHMAN

Chem. 10-11-12—General	12
Math. 60 A-B-C—Fund. Concepts of Calculus	9
or	
Math. 63 A-B-C—Analytic Geometry and	
Calculus	13
Zool. 3-4—General	8
Requirements and/or electives*	

SOPHOMORE

Chem. 201-202—Organic (short)	6
Chem. 203-204—Organic Laboratory	3
or	
Chem. 205-206-207—Organic (long)	9
Chem. 208-209—Organic Laboratory	4
Zool. 125—Genetics	5
Zool. 100—Elements of Anatomy	5
Requirements and/or electives**	

JUNIOR

Bot. 3-4-5—General	9
Phys. 5-6-7—General	12
Zool. 335—General Entomology	5
Zool. 311—General Bacteriology	5
Requirements and/or electives** (Agriculture Human Relations 410, Sociology and Anthropology 101 suggested).	

SENIOR

Chem. 226—Quantitative Analysis	5
Zool. 346—Comparative Physiology	6
Zool. 312—Pathogenic Bacteriology	5
Zool. 341—Parasitology	6
Zool. 417—Advanced General Bacteriology ..	6
Zool. 499—Undergraduate Research	6
Requirements and/or electives**	

*See requirements in the University College section of the catalog.

**See requirements for the Bachelor of Science degree.

PREPARATION FOR SOCIAL WORK

The Department of Sociology is a member of the Council on Social Work Education and offers a limited sequence of courses for preprofessional training for social work in conjunction with a major in sociology. These courses also offer students preparing

for medicine, law, teaching, and nursing an opportunity to become acquainted with the social services which they will encounter frequently in their professional activities.

At present there is a national need for professionally trained social workers. Generous financial assistance is available to enable qualified students to obtain a professional education at one of the many accredited graduate schools of social work throughout the nation. Students intending to pursue a career in social work should plan to continue their preparation beyond the undergraduate level and should inquire regarding scholarships at the institution of their choice.

PREPARATION FOR PROFESSIONAL TRAINING. The undergraduate foundation for professional training at graduate schools of social work is a broad liberal arts education, with a concentration on studies in the social, psychological, and biological sciences. Students should elect sociology as their major field, with courses in social work to be chosen in consultation with their department adviser. Students majoring in other fields are encouraged to register for courses in pre-professional social work (see Sociology in Courses of Instruction section of the catalog), and to consult with the department adviser concerning professional opportunities.

PREPARATION FOR EMPLOYMENT. Some students will wish to seek employment with welfare agencies immediately upon completion of the Bachelor of Arts degree and should meet the requirements outlined under Sociology in the Courses of Instruction section of the catalog. There are various positions in social agencies for which graduate education is not required. The duties of these positions can be better performed by the graduate who has had some orientation to social work through the recommended pre-professional courses.

PREPARATION FOR TEACHING

Students earning either a Bachelor of Arts or Bachelor of Science degree in the College of Arts and Sciences may meet the special requirements for certification to teach

in the secondary schools in Ohio by completing the following:

1. The regular program for the AB or BS degree.
2.
 - a. Psych. 175—Educational 4
 - b. Ed. (EdSe)* 120—Introduction to Secondary Education 3
or
Ed. (EdSe) 125—Introduction to Purposes and Practices of Education 3
 - c. Ed. (EdPI)** 360—Field Experience in Public Schools 2
or
Ed. (EdPI) 260—Field Service in Education 2
 - d. Ed. (EdSe) 321—Principles of Teaching and Learning in the Secondary Schools 3
 - e. Ed. (EdSe) 322—Introduction to Secondary Curriculum 3
 - f. Ed. (EdSe) 323—Instructional Methods and Practices in Secondary Schools .. 3
 - g. Methods—The methods course offered by the department of the student's major 3-5
 - h. Ed. (EdPI) 463-464—Student Teaching in Secondary Schools 12
 - i. Ed. (EdPI) 465—Student Teaching Seminar 3
3. The Comprehensive Major—The comprehensive program consists of the student's standard major plus selected related courses. The student can obtain a description of this program from his adviser, the Office of the Dean of the College of Arts and Sciences, or from the College of Education.

*EdSe—Secondary Education

**EdPI—Professional Laboratory in Education

All students must meet the following general education requirements for certification in Ohio, as set forth by the State Department of Education in *Laws and Regulations Governing the Certification of Teachers*, effective January 1, 1963:

- | | |
|---|----|
| General Education | 45 |
| a. Science and/or Mathematics | 9 |
| b. Social Studies (excluding Psychology) .. | 9 |
| c. Literature and/or Language | 9 |
| d. Fine (Comparative) and/or Applied Arts | |
| e. Religion and/or Philosophy | |
| Credit on either or both (d) and (e) ... | 9 |
| f. Excess credit in any or all areas above .. | 9 |

Careful selection of courses in meeting the College of Arts and Sciences area requirements will enable the student to fulfill all of the above general education requirements without exceeding the hours required

for any requirements in the College of Arts and Sciences.

A prerequisite to certification is the satisfactory fulfillment of the Program of Selective Admission and Retention in Teacher Education. This program includes the following:

- A. Admission to Teacher Education: Application is made in the Personnel Services in Education Office, McCracken Hall, during the quarter when advancement from University College is expected.
- B. Admission to Junior Standing in Teacher Education: Application is made in the Personnel Services in Education Office, McCracken Hall, during the third quarter, sophomore year.
- C. Admission to Student Teaching: Application is made in the Office of Student Teaching, McCracken Hall, before Christmas vacation of the year prior to the year when the student teaching is to be done. (For the details of the Selective Admission and Retention Program, see the College of Education in this bulletin.)

Each student must complete one comprehensive teaching field or, in some cases, two teaching fields. The arts and sciences student is urged to notify the Office of the Dean of the College of Arts and Sciences immediately upon his reaching the decision to pursue this program.

All facets of this program became effective with the 1963-1964 freshman class.

PREPARATION FOR THEOLOGY

The American Association of Theological Schools recommends that a student planning to enter a theological seminary include in his undergraduate studies the following subjects: English (at least nine quarter hours), history (at least five quarter hours), philosophy (at least five quarter hours), natural science (at least three quarter hours), social science (at least nine quarter hours), foreign language (at least six quarter hours selected from Latin, Greek, Hebrew, German, and French), and religion (at least five

quarter hours). The association advises the preseminary student to major in English, philosophy, or history. The student should also check the entrance requirements of the theological seminary of his choice and plan his course to meet these requirements, as well as the requirements for the Bachelor of Arts degree at Ohio University.

PREPARATION FOR VETERINARY MEDICINE

Schools of veterinary medicine require a minimum of 90 quarter hours of academic credit, exclusive of physical education and military science, for admission and some schools now require 140 quarter hours. Suggested courses for a third year of undergraduate work are outlined below and a student who completes 140 hours of credit and meets the graduation requirements except for total hours credit is eligible for the degree-in-absentia privilege.

Some schools of veterinary medicine require applicants to take the Veterinary Aptitude Test. A student will check with the veterinary school as to this requirement.

FRESHMAN

Chem. 10-11-12—General and Qual. Analysis	12
Eng. 70-80—Composition	6
Math. 60 A-B—Fund. Concepts of Calculus ..	6
P.E.	
Speech 1—Fundamentals	
Zool. 3-4—General	6
Humanities and/or social sciences, foreign language if required for degree)*	

SOPHOMORE

Chem. 201-202—Organic	6
Chem. 203-204—Organic Laboratory	3
Phys. 5-6-7—Introduction	12
Zool. 103—Comparative Vertebrate Anatomy	6
Zool. 125—General Genetics	5
Humanities and/or social sciences*	

JUNIOR

Zool. 310—Elementary Bacteriology	4
Zool. 330-331—Vertebrate Embryology I, II	6
Zool. 363—Biochemistry Lecture I	3
Zool. 366—Biochemistry Laboratory	3
Humanities and/or social sciences*	

Suggested departments from which courses in humanities and social sciences may be selected include art, dramatic art, economics, English (literature), geography (economic), government, history, philosophy, sociology and anthropology.

*See requirements for Bachelor of Science or Bachelor of Arts degree.

PREPARATION FOR WATER RESOURCES

This curriculum is recommended for those students in the College of Arts and Sciences who wish to specialize in the investigation of surface and ground-water supplies. The student will major in geology, with additional courses in mathematics, chemistry, physics, and civil engineering.

Students should enter the program as freshmen in order to complete the curriculum in four years. The following sequence of courses is recommended as a minimum:

FRESHMAN

Geol. 3-4-5—Elements	9
Chem. 10-11-12—General and Qual. Analysis	12
Math. 63A-B—Analytic Geometry and Calculus	10
Requirements and/or electives*	

SOPHOMORE

Geol. 131-132—Mineralogy	9
Geol. 133—Petrology	4
Math. 163C, 163A—Analytic Geometry and Calculus	6
Requirements and/or electives **	

JUNIOR

C. E. 220, 321—Applied Mechanics	8
Geol. 125—Glacial	4
Math. 163B—Analytic Geometry and Calculus	3
Phys. 113-114—General	10
Requirements and/or electives **	

SENIOR

C. E. 340—Fluid Mechanics	5
C. E. 343—Hydrology	5
Geol. 213—Principles of Sedimentation	4
Geol. 214—Principles of Stratigraphy	4
Geol. 362—Structural	5
Geol. 376—Hydrogeology	5
Requirements and/or electives **	

*See requirements in the University College section of the catalog.

**See requirements for the Bachelor of Arts or the Bachelor of Science degree.

PREPARATION FOR WORK IN JUVENILE DELINQUENCY AND CRIMINOLOGY

Police and court services, and the supervision and training of juvenile delinquents, young offenders, and criminals, offer career positions for college graduates with special training in these fields. An increasing number of positions are open to sociologists in administration and research in penal institutions.

tutions and probation and parole systems. Sociologists have served as chairmen of federal and state parole boards, wardens of penitentiaries, superintendents of reformatories and juvenile training schools, prison counselors, staff members of diagnostic clinics, and actuaries for parole boards.

Sociologists make a distinctive contribution to the field of corrections through scientific research in prison administration, criminological statistics, prison culture, and correctional treatment. Research training is based upon an undergraduate curriculum such as that described under Sociology in the Courses of Instruction section of the catalog, with related work in government and psychology, but requires, both in planning and execution, a level of professional training beyond the Bachelor of Arts degree. Students interested in careers in the field should plan to take advantage of the financial assistance available to them at most universities on the basis of superior scholarship for the purpose of obtaining graduate degrees.

PREPARATION FOR ADVANCED TRAINING IN ZOOLOGY

Students intending to become professional zoologists must consider preparing for graduate work. The following suggested pro-

gram will provide the necessary background for admission to most graduate schools; substitutions can be made in the junior-senior program, but it is recommended that the first two years be followed closely.

FRESHMAN

Zool. 3-4-5—General	11
Zool. 125—General Genetics	5
Chem. 10-11-12—General	12
Math. 60 A-B-C—Fund. Concepts of Calculus	9
or	
Math. 63 A-B-C—Analytic Geometry and Calculus	13

SOPHOMORE

Zool. 103—Comp. Vert. Anatomy	6
Phys. 5-6-7—General	12
Chem. 201-202—Organic (short)	6
Chem. 203-204—Organic Laboratory	3
or	
Chem. 205-206-207—Organic (long)	9
Chem. 208-209—Organic Laboratory	4

JUNIOR-SENIOR

Zool. 306-307—Vertebrate Embryology	6
Zool. 346—Comparative Physiology	6
Zool. 375—Animal Communities	5
Zool. 330-331—General Invertebrates	10
Chem. 226—Quantitative Analysis	5
Chem. 351—Physical (short)	4

Useful extra-departmental courses depending on individual interests: Psych. 121, Elementary Statistics; Ind. Arts 336, Bioelectronics.

THE COLLEGE OF BUSINESS ADMINISTRATION

Harry F. Evarts, *Dean*
William A. Day, *Associate Dean*

VISITING COMMITTEE

Fred H. Johnson, Chairman
President, Rankin, Johnson & Company

Warren Alpert
President, Warren Equities, Inc.

Georges F. Doriot
President, American Research & Development Corporation

Samuel F. Downer, '40
Vice President—Finance, LTV Aerospace Corporation

Robert W. Haigh

Vice President—Planning, The Standard Oil Company of Ohio

E. J. Hanley

Chairman of the Board and President, Allegheny Ludlum Steel Corporation

Russell P. Herrold, '16

Chairman of the Board, First Trust & Savings Bank

H. Clay Littick

President, Zanesville Publishing Company

- Gerald M. Loeb
E. F. Hutton & Company
- Thomas B. McCabe, Jr.
Vice President, Scott Paper Company
- J. Warren McClure, '40
Publisher, The Burlington Free Press
- Donald C. Power
Chairman of the Board, General Telephone & Electronics Corporation
- George Putnam, Jr.
President, The Putnam Management Company, Inc.
- William S. Sneath
Treasurer and Vice President, Union Carbide Corporation
- Roger P. Sonnabend
President, Hotel Corporation of America
- Julius Stern
Chairman of the Board, Wood County Bank
- Albert J. Weatherhead, III
Vice President, The Weatherhead Company
- Clyde E. Williams
President, Clyde Williams & Company

Consistent with its character and history as a pioneer educational institution, Ohio University inaugurated courses in business administration in 1893, at a time when few colleges and universities offered instruction in this area. As the conception of collegiate training for business broadened, the offerings were steadily expanded. Today the College of Business Administration offers comprehensive programs of study in business which lead to the Bachelor of Business Administration degree. The College is accredited by and is a member of the American Association of Collegiate Schools of Business.

The College includes the School of Journalism (described in the next section), which offers theoretical and practical programs of study leading to the degree of Bachelor of Science in Journalism.

It is as essential to teach students the art of living as it is to provide them with professional business training. Further, it is a duty of every college graduate to participate in, and, if possible, to assume responsibility for intelligent leadership in civic,

governmental, professional, and social activities of life. Every student in the College of Business Administration, therefore, is required to take some courses offered by the other colleges of the University in order to widen his scope of knowledge and interest.

Through the use of elective hours in programs of study in the College of Business Administration, a student may emphasize a special interest by electing courses offered by any other college of the University. Such courses are open to students in the College of Business Administration on the same basis as they are open to students in those colleges. The College of Business Administration, in turn, serves students enrolled in the other colleges of the University and admits them to its courses on the same basis as students registered in the College of Business Administration.

The mutual relationship between the colleges whereby a student in one college may take courses in another gives a breadth of combinations in education which only a university can offer. However, it is impossible to set up predetermined curricula for each and every possible combination. For this reason, the College of Business Administration stresses its faculty advisory system for students. Each student may choose as an adviser a member of the College of Business Administration who is a specialist in the student's field of interest. Student and adviser together then mold the outlines of courses into an integrated program of study best suited for the student's individual needs.

A candidate for the degree of Bachelor of Business Administration must complete the general University requirements for graduation which call for a minimum of 180 quarter hours with a point-hour ratio of 2.0 (C) on all hours attempted, but including only the final hours and points in repeated courses. This point-hour requirement applies to his total record and to his courses, except aviation and journalism, taken in the College. For a student with transferred credit, this rule applies to both his cumulative record, which includes transferred credits, and to his Ohio University record exclusive of transferred credits.

BACHELOR OF BUSINESS ADMINISTRATION

All students following programs of study leading to the degree of Bachelor of Business Administration must take the subjects indicated in the freshman, sophomore, junior, and senior programs of the curriculum outline. The sequence of the courses introduces a logical development of the student's knowledge but it can be varied to fit his or her particular interest, provided the prerequisites are observed.

FIELDS OF SPECIALIZATION

It is felt that a student who follows a program of studies leading to the degree of Bachelor of Business Administration has automatically chosen a field of concentration. Further concentration by way of a major is not required. Some of the fields that may be stressed are listed.

Accounting

- General accounting
- Administrative accounting
- Preparation for public (C.P.A.) accounting profession

Business Administration

Business and Industrial Communications

Economics

- Economic theory
- Economic history
- Economic development and planning
- International economics
- Labor economics and manpower resources
- Public finance and government economic policy
- Econometrics

Finance

- Banking
- Financial management
- Investment management

Management

- Organizational behavior
- Personnel
- Production

Marketing

- Advertising
- Consumer behavior

- Industrial
- International
- Market research
- Sales management
- Preparation for Law School
- Quantitative Methods

CURRICULUM IN BUSINESS ADMINISTRATION

The university requirements pertaining to English composition, physical education, and interpersonal communication are not indicated in the curriculum below. See University College section of this bulletin.

FRESHMAN

The freshman program will be determined largely by the requirements of the University College. The University College program should include:

First Quarter	
Ec. 1—Principles of Economics	4
Math. 60A—Fundamental Concepts of Calculus	3
Phil. 1—Fundamentals of Philosophy*	3
Second Quarter	
Ec. 2—Principles of Economics	4
Math. 60B—Fundamental Concepts of Calculus	3
Phil. 2—Principles of Reasoning*	3
Third Quarter	
INCO. 3—Public Speaking	4
Math. 60C—Fundamental Concepts of Calculus	3

SOPHOMORE

First Quarter	
Acct. 101—Managerial Accounting	5
Qua. M. 200—Quantitative Methods	3
Second Quarter	
Acct. 102—Managerial Accounting	4
Qua. M. 255—Business Statistics I	3
B.I.C. 220—Business Communications I	3
Third Quarter	
Eng.—Literature (Sophomore)	3
Qua. M. 256—Business Statistics II	3
Qua. M. 270—Electronic Data Processing ...	3

JUNIOR

First Quarter	
Bus. L. 355—Legal Environment of Business I	3
Fin. 310—Managerial Finance	3
Mgt. 300—Management	4
Mkt. 301—Basic Concepts of Marketing I... .	3
Second Quarter	
Bus. L. 356—Legal Environment of Business II	3
Fin. 311—Managerial Finance	3

Mgt. 310—Production	3
Mkt. 302—Basic Concepts of Marketing II..	3
Third Quarter	
Bus. L. 357—Legal Environment of Business III	3
Bus. C. 320—Business Communications II ..	3
Ec. 203—Economics of the Firm	4
Eng. 231—Advanced Composition	3

SENIOR

First Quarter	
Mgt. 440—Organizational Theory and Behavior	4
Second Quarter	
Ec. 204—National Income and Employment Analysis	4
Mgt. 470—Administrative Policy I	3
Third Quarter	
B.I.C. 420—Business Communications III ...	3
Mgt. 471—Administrative Policy II	3

*Phil. 110, Introduction, and Phil. 120, Symbolic Logic I, may be substituted after the sophomore year.

Note: All courses may be taken in any quarter offered, if course sequences and prerequisites are observed.

In addition to the above curriculum requirements, the student shall elect a *minimum of twelve approved credit hours in each of two of the following non-business fields:*

Botany	
Chemistry	
Classical Languages	
#English	
Fine Arts	
Geography	
Geology	
Government	
History	
#Interpersonal Communication	
#Mathematics	
Modern Languages	
Physics	
#Philosophy	
Psychology	
Sociology and Anthropology	
Zoology	

If English, mathematics, philosophy, or interpersonal communication is elected as a non-business field, the student must complete twelve credit hours by taking courses other than the specific non-business courses required in the degree curriculum.

To complete the minimum 180 quarter hours for the Bachelor of Business Administration degree, *thirty-five approved quarter*

hours may be elected by the student from courses in business, economics, engineering, general studies, journalism, fields listed in the non-business group, R.O.T.C. (except summer camps), and those required for teacher certification.

AVIATION

Specialized courses in aviation are offered to afford today's students an opportunity to better prepare themselves for a future in the Jet and Space Age. Since the airplane and its many by-products have a great impact on the political, economic, and social aspects of our society, a basic knowledge of aviation, including the possession of a pilot's license, could be a valuable asset to future professional and business men, educators, and administrators. One or more of the aviation courses might beneficially be incorporated into the programs of students preparing for any of these fields.

PREPARATION FOR LAW SCHOOL

A student in the College of Business Administration who plans to enter law school should follow the Bachelor of Business Administration degree curriculum and also elect, with the approval of his adviser, courses in other fields, especially American government, American and English history, English, philosophy, interpersonal communication, and other theory courses in the College of Arts and Sciences, except those courses which substantially duplicate material contained in the typical law school curriculum.

The Ohio Supreme Court in its regulations governing the admission to the practice of law in Ohio provides that a student entering law school must be able to show that he possesses an undergraduate degree from an approved college if he wishes to take the Ohio Bar Examination. Law schools in the state of Ohio have supplemented this Supreme Court rule by requiring the degree of *all* entering students, regardless of the state in which they plan to take the bar examination.

However, for the benefit of those students who do not plan to take the Ohio Bar

Examination and who do not plan to seek admission to an Ohio law school, a degree-in-absentia program is available as described in the following statement.

A student who desires to enter a school of law located outside Ohio at the end of three years of college work and receive the Bachelor of Business Administration degree from Ohio University after completing his first year in law school may do so provided the following conditions are met: the student has the written approval of the dean of the College of Business Administration; the requirements of the University College are met; a minimum of 147 quarter hours, including the required courses in the Bachelor of Business Administration degree curriculum, excluding Business Law 355-356-357, are completed with a point-hour ratio of 2.0 on all hours attempted; and a full year's work in an accredited law school is completed with an average equivalent to that prescribed for the bachelor's degree at Ohio University and the student is eligible for advancement without condition to the second year.

If there is any possibility that a student will desire to take the Ohio Bar Examination, he is urged to obtain his undergraduate degree before entering law school.

CENTER FOR MANAGEMENT DEVELOPMENT

The Center for Management Development is a function of the College of Business Administration and is primarily designed to provide management development programs for business and industry throughout the Ohio Valley. The Center also works in conjunction with other institutions in presenting management programs on a highly specialized basis, e.g., The Ohio University-Battelle Memorial Institute Research and Development Management Programs. Although the Center is professionally staffed, selected College of Business Administration graduate students are given the opportunity to assume responsibility for various administrative duties and projects. Thus the Center is an educational training hub for educators, students, and practitioners.

CENTER FOR ECONOMIC EDUCATION

The Center for Economic Education is a division of the College of Business Administration and carries out activities designed to improve the level of economic understanding.

CFEE programs include research, preparation of study materials, assistance in undergraduate and graduate training of teachers, consulting services, and experimental teaching and evaluation projects in the area of economics, at all levels of education from elementary and secondary schools through college.

The Center currently is developing a junior high school course in occupational opportunities and labor market processes, under a grant from the United States Office of Education, Division of Adult and Vocational Research.

DIVISION OF RESEARCH

The College of Business Administration has maintained a Division of Research since 1961. The objectives of the Division are to carry on research in the fields of business and economics; to promote and facilitate the research of the faculty; and to publish the results of that research. With respect to the last objective, the Division has initiated the publication of a monograph series; annually holds a faculty symposium on research, the proceedings of which are published; and maintains a reprint series of articles by faculty members of interest to the business community and of talks by various business speakers who visit the Athens campus under the auspices of the College Lecture Series.

It is felt that the activities of the Division of Research contribute substantially to the professional development of College of Business Administration faculty. In turn, the results of that research aid in the educational process for all College students by exposing them through the faculty to new developments in the field and acquainting them with the process of information gathering and analysis. The Division maintains a library of statistical and descriptive material

relating to the U. S. economy as a whole and to various segments of business activity. Students may, with the cooperation of individual faculty members, make use of this material in preparing written reports for classroom purposes.

OHIO COUNCIL ON ECONOMIC EDUCATION

This Council is an organization of leaders from education, business, labor, agriculture, and other professions working together to promote greater economic understanding through objective study. It is a service organization to the schools and colleges in Ohio.

The Council presents a program of instruction, research, and community relations to schools, colleges, and other educational institutions. It is dedicated to promote a better understanding of the American economy and its relation to economic problems and international developments. Its chief goal is accomplished through the pre-service and in-service training of teachers by means of workshops, institutes, conferences, and school consultations. Research is conducted in the fields of curriculum development, publications, and experimental teaching projects. Consultations consist of working with schools in curriculum development and instruction in economic concepts and understanding.

THE SCHOOL OF JOURNALISM

Loren J. Hortin, *Director*

BACHELOR OF SCIENCE IN JOURNALISM

The Ohio University School of Journalism is accredited by the American Council on Education for Journalism. It is one of a limited number of accredited schools and departments of journalism in the United States. As such, it is one of the members of the American Association of Schools and Departments of Journalism.

PURPOSE AND OBJECTIVES

Today the purposes of the Ohio University School of Journalism are: 1. To provide thorough, broadly based *professional* education and training in journalism and communications, leading to the BSJ and advanced degrees. 2. To provide *liberal* and *cultural* background in the arts, literature, languages, social and natural sciences. 3. To promote scholarly research and achievements by the faculty and students. 4. To provide leadership and assistance to high school journalism and to professional associations on state, national, and international levels. 5. To set high standards of journalism ethics.

Journalism today is a profession—like medicine, law, teaching, or engineering. It requires its practitioners to be culturally educated and professionally trained. Blending the liberal arts with professional courses, Ohio University journalism students take approximately three-fourths of their courses outside the professional school.

Five sequences are offered, all leading to the degree of Bachelor of Science in Journalism: *Advertising-Management*, *Magazine Journalism*, *News Writing and Editing*, *Public Relations*, and *Radio-Television News*. Along with these sequences, several specialized study areas are possible—for example, scientific writing, religious journalism, or foreign correspondence.

While working toward their degree, students serve on the staff of the *Athens Messenger*, an independently owned daily newspaper. The city editor, managing editor, and advertising manager are faculty members of the School of Journalism. The student staff members of the *Messenger* gather and write news, edit local and Associated Press copy, write headlines, and prepare advertising copy and layouts. This training prepares students to take and hold jobs immediately after graduation.

The School of Journalism has its own Associated Press wire service for the use of students and teachers in all classes.

Practical experience is also available in the University News Bureau, in the Photography Department, and in the journalism laboratories. Many students also add to their

experience by helping edit the Ohio University *Post*, daily campus newspaper; the *Athena*, the University yearbook; and other campus publications.

In Radio-Television News, students get practical experience in preparing and broadcasting news over the University's radio and television stations. The United Press radio news teletype service is available for journalism students in this sequence.

INTERNSHIP PROGRAM. Consistent with its policy of combining classwork with practical training, the School of Journalism has inaugurated a Journalism Internship Program. Juniors or seniors who have ranked high in their courses are eligible for appointment as interns. The period of internship is ten weeks or more during the summer. The intern is provided with as varied experience in practical journalism as possible. The intern is paid a moderate sum for his work and study. No credit will be granted for internship work itself. However, upon completion of the internship period, a student is permitted to enroll the following semester in Journalism 462 Internship, 4 hours credit. The selection of the interns is made by the director of the School of Journalism.

CURRICULA AND REQUIREMENTS

The American Council on Education for Journalism includes among its "Accrediting Standards" the following provision:

Generally three-fourths of the student's program should consist of courses in the area of the liberal arts and sciences and one-fourth in professional courses in journalism.

Journalism students must take a group of specifically selected courses as a background for journalism. These should include at least 30 hours of approved courses numbered 200 and above in social sciences, humanities, or natural sciences. With the approval of the director, limited adjustments may be made to permit a background for specialized reporting in the chosen field. Nine hours of foreign language of any level may be included in the 30 hours.

Non-journalism courses required of all students include:

English Composition	6
Literature (above freshman)	9
Economics	8
Psychology	6
Sociology	5
Government	3
History	9
Speech	3-7
Foreign Languages or Humanities	9-12
Mathematics	0-6*
Natural Sciences	0-9*
Physical Education	3

*Depending upon high school deficiency

Other non-journalism courses are required, but they are not the same for all sequences. See individual sequences.

FRESHMAN PROGRAM

Freshmen should meet the requirements of the University and the University College in English composition, speech, physical education, and a year's work in each of two of the following groups: humanities, mathematics, natural sciences, and social sciences. In selecting the groups, the student must conform to the specific requirements based upon high school deficiencies, if he has any. He should plan his program for the freshman year to include the following courses:

Humanities—9-12 hours. (Foreign language recommended.)

History—9 hours.

Psychology I and II—6 hours. (General psychology.)

All journalism students must be able to operate a typewriter by the touch system. Students without this proficiency must make special arrangements for typing instruction before the sophomore year.

Students preparing for Advertising-Management will find it advantageous to take Ec. 1-2—Principles of Economics (8) in their freshman year and may, if necessary, have the requirement in history delayed to permit scheduling of the economics courses.

If a student chooses to fulfill his group requirements with science, it is recommended that he take Biol. 1-2-3—The Living World

(9), or Phys. Sci. 2-3-4—The Physical World (9).

NEWS WRITING AND EDITING

SOPHOMORE

Ec. 1-2—Principles of Economics	8
Jour. 211—History of American Journalism ..	5
Jour. 231—Newspaper Reporting	5
Jour. 221—Graphics of Communication.....	5
Radio-TV (3 hours elective)	3
Soc. 1—Introduction to Sociology	5

JUNIOR

Jour. 332*—Reporting Practice	2
Jour. 333—Newspaper and Magazine Editing ..	4
Jour. 331—Contemporary Thought and Developments	3
Photog. 233—Basic News Photography	3

SENIOR

Jour. 334*—Editing Practice	2
Jour. 411—Newspaper and Communications Law	3
Jour. 464—Reporting of Public Affairs	3
Jour. 465—The Editorial Page	3
Jour. 481—Newspaper Management	3

*Jour. 462—Internship may be substituted for either. (4)

ADVERTISING-MANAGEMENT

SOPHOMORE

Jour. 250*—Advertising Principles	5
Jour. 231—Newspaper Reporting	5
Jour. 221—Graphics of Communication	5
Students interested in Management will take in addition:	
Acct. 101-102—Managerial Accounting	9

JUNIOR

Jour. 333—Newspaper and Magazine Editing ..	4
Jour. 321—Newspaper Advertising and Layout ..	4
Advertising students will take these courses:	
Jour. 482—Radio-TV Advertising and Management	4
Jour. 422—Advertising Production	3
Mkt. 255-256—Marketing Principles, prereq. Ec. 2	6
Management students will take these courses: Bus. L. 256-257—Legal Environment of Business I	6
Jour. 331—Contemporary Thought and Developments	3

SENIOR

Jour. 323—Newspaper Advertising Practice ..	2
Jour. 411—Newspaper and Communications Law	3
Jour. 481—Newspaper Management	3

Advertising students also will take Jour. 450—Advertising Copy Writing* (3). Management students also will take Psych. 261—Industrial Psychology (4). Electives should include journalism (3 hours) and an advanced economics course.

*Also listed as Marketing.

MAGAZINE JOURNALISM

SOPHOMORE

Ec. 1-2—Principles of Economics	8
Eng. 101—Interpretation of Fiction or	
Eng. 102—Interpretation of Poetry or	
Eng. 103—Interpretation of Drama.....	3
Eng. 116—English and Continental Literature or	
Eng. 115—Great American Literature	6
Jour. 211—History of American Journalism ..	5
Jour. 231—Newspaper Reporting	5
Jour. 221—Graphics of Communication	5
Soc. 1—Introduction to Sociology	5

JUNIOR

Eng. 290—Creative Writing	3
Jour. 332—Reporting Practice (2) or	
Jour. 462—Internship	4
Jour. 333—Newspaper and Magazine Editing ..	4
Jour. 363—Reviewing and Criticism or	
Jour. 331—Contemporary Thought and Developments	3
Jour. 431—Industrial and Business Magazines	3
Photog. 233—Basic News Photography	3

SENIOR

Jour. 411—Newspaper and Communications Law	3
Jour. 441—Feature and Magazine Writing ..	4
Jour. 442—Advanced Feature and Magazine Writing	3
Electives should include journalism (4 hours).	

PUBLIC RELATIONS

SOPHOMORE

Jour. 250*—Advertising Principles	5
Ec. 1-2—Principles of Economics	8
Jour. 231—Newspaper Reporting	5
Jour. 221—Graphics of Communication	5
Soc. 1—Introduction to Sociology	5
Speech 3—Public Speaking	4

JUNIOR

Jour. 333—Newspaper and Magazine Editing ..	4
Jour. 334—Editing Practice (2) or	
Jour. 462—Internship	4
Jour. 331—Contemporary Thought and Developments	3
Photog. 233—Basic News Photography	3
Psych. (200 or above, elective)	3
Educ. 410	3

SENIOR

Jour. 450*—Advertising Copy Writing	3
Jour. 411—Newspaper and Communications Law	3
Jour. 471—Public Relations Principles	5
Jour. 472—Advanced Public Relations	4
Jour. 431—Industrial and Business Magazines	3
Psych. 336—Social Psychology	4
Soc. 312—Public Opinion and Mass Communications	4

The course in human relations and the advanced courses in psychology and sociology listed above are a partial fulfillment of the requirement that students must take at least 30 hours of courses numbered 200 and above in social sciences, humanities, or natural sciences.

*Also listed as Marketing

RADIO-TELEVISION NEWS**SOPHOMORE**

Ec. 1-2—Principles of Economics	8
Jour. 231—Newspaper Reporting	5

JOUR. 351—Radio-TV News Writing

and Editing	3
Photog. 233—Basic News Photography	3
Radio-TV 106—Introduction to Radio-TV ..	3
Radio-TV 7—Broadcast Speech	3
Radio-TV 310—Broadcast Performance Techniques	3

JUNIOR

Jour. 250*—Advertising Principles	5
Jour. 464—Reporting of Public Affairs	3
Jour. 353—Radio-TV News Practice	2

SENIOR

Jour. 451—TV News Production	2
Jour. 455—Seminar in Broadcast News	3
Jour. 411—Newspaper and Communications Law	3
Jour. 482—Radio-TV Advertising and Management	4

*Also listed as Marketing.

THE COLLEGE OF EDUCATION

Gilford W. Crowell, *Dean*

Russell A. Milliken, *Associate Dean*

Fred B. Dressel, *Assistant Dean*

Dale F. Nitzschke, *Assistant Dean*

The College of Education is devoted to the education of men and women who intend to enter the fields of teaching and educational administration. A wide range of programs prepares students for teaching in elementary schools, high schools, and colleges; for positions as supervisors, school principals, or superintendents; and for such specialized educational work as that of the guidance counselor or school psychologist.

All these programs include a broad base of general education, intensive preparation in the subjects to be taught, and professional emphasis and focus which combine educational theory with actual practice in meeting the responsibilities of the profession. Each program is thus designed to prepare students to enter the profession possessing the liberal background, the functional knowledge, and the professional understanding and skill

which are requirements for professional success.

The College of Education is accredited by the North Central Association, the National Council for Accreditation of Teacher Education, and is approved for teacher training by the State of Ohio Department of Education.

BACHELOR OF SCIENCE IN EDUCATION

The degree, Bachelor of Science in Education, represents the completion of a program designed to develop in the student competence in three areas; the broad awareness of the principal academic fields developed through a true university education; the deeper study of the particular studies in

which the student seeks the undergraduate mastery necessary for teaching these subjects; and the understanding of the professional responsibilities of teaching, and demonstrated skill in meeting them.

The degree is granted upon completion of the general graduation requirements of the University, including a minimum of 180 quarter hours with a point-hour ratio of 2.0 (C) on all hours attempted, but including only the final hours and points in repeated courses, and in addition 2.0 point-hour ratio in the major teaching field. For a student with transferred credit, this rule applies to both his cumulative record, which includes transferred credits, and to his Ohio University record exclusive of transferred credits. These programs are of three main types:

ELEMENTARY EDUCATION. This program prepares for teaching in kindergarten-primary, or intermediate grades, with specialization in one of these groups.

SECONDARY EDUCATION. This program prepares for teaching any of the academic fields in high school. Such special subjects as art, home economics, industrial arts, music, physical education, and speech and hearing therapy are ordinarily not limited to any grade level. Students who major in these subjects will be prepared to teach their specialty in both elementary and high school.

SELECTIVE ADMISSION AND RETENTION

There are three distinct steps or admission phases in the Admission and Retention Program.

A. ADMISSION TO TEACHER EDUCATION

Application for admission to teacher education should be made during the third quarter of the freshman year. The criteria students must meet by the end of the quarter in which they apply are:

1. Completion of 38 quarter hours of credit.
2. Completion of Psychology I and II.

3. Sufficient grade point average to be above probationary status.

Applications for admission to Teacher Education may be obtained in the Student Personnel Services Office, McCracken Hall.

B. ADMISSION TO JUNIOR STANDING

Application for admission to junior standing in teacher education should be made at the end of the third quarter of the sophomore year. Criteria should be met by the end of the quarter in which the student applies.

1. Criteria that must be met by all students in teacher education:
 - a. Completion of 83 quarter hours of credit.
 - b. Completion of Psychology 175.
 - c. Completion of Ed.Pl. 260 or Ed.Pl. 360.
 - d. Satisfactorily meeting the Speech Proficiency requirement. The student must have successfully passed a speech proficiency test given by the Speech Department. A card certifying that this test has been passed must be on file in the Office of the Director of Student Teaching.
 - e. Attainment of a 2.0 accumulative point hour ratio.
 - f. A satisfactory report from the health center.
 - g. A satisfactory report from the academic advisor.
 - h. A satisfactory report from the Dean of Students Office.
2. Special criteria for students in elementary education:
 - a. Completion of Ed.Pl. 100.
 - b. Cadet students do not apply for junior standing.
3. Special criteria for students in secondary education:
 - a. Completion of Education 120 or 125 or 297.
 - b. Achievement of a 2.0 accumulative point hour ratio in each of the declared teaching fields.

- c. Adequate progress toward completion of the 45 quarter hours of General Education required by the State Certification Law. (See University catalogue).

Applications for admission to junior standing in teacher education may be obtained in the Student Personnel Services Office, McCracken Hall.

C. ADMISSION TO STUDENT TEACHING

See prerequisites for student teaching at the back of the College of Education Section.

ELEMENTARY AND SPECIAL EDUCATION

The following program includes all requirements, except those established by deficiencies in the high school pattern, for students who plan to specialize in elementary education.

Psych. 1,2—General Psychology	6
Ed. Psych. 175—Educational Psychology	4
Eng. 70, 80—English Composition	6
Speech 1—Fundamentals of Speech	3
Physical Education	3
P.E. 202—Personal and Community Health ..	4
P.E. 270—Teaching of Physical Education ..	2
Music 60—Music Fundamentals	3
Music 61—Music for the Classroom Teacher ..	3
Art 1, 2—Elementary Design for Teachers ..	6
Art 21, 22 or 23—Sculpture	2
Art 260—Practical Design Workshop for Elementary Teachers	3
Select from the following depending on high school deficiencies:	
Biol. 1,2,3—The Living World	12
Phys. Sci. 3,4,5—The Physical World	12
Math. 20a, 20b*—Foundations of Elementary Arithmetic	6
Hist. 1,2,3—Western Civilization in Modern Times	9
Hist. 111 or Govt. 1—American	3
Geog. 113—Physical Elements of Geography ..	3
Geog. 114—Cultural Elements of Geography ..	3
Social Science Electives	9
Ed. El. 100—Studies of Children	3
Ed. El. 310—Teaching of Reading	4
Ed. El. 320—Oral and Written Communication	4
Ed. El. 321—Children's Literature	3
Ed. El. 330—Teaching of Mathematics	5
Ed. El. 340—Teaching of Science	4
Ed. El. 350—Teaching of Social Studies	4
Ed. El. 360—Field Experience	2

Ed. El. 407—Evaluation in the Elementary School	3
Ed. El. 461, 462—Student Teaching	12
Ed. El. 465—Student Teaching Seminar	3
Ed. El. 460—The Child and the Curriculum..	3
Required of kindergarten-primary majors: Ed. El. 304—Development of Kindergarten Education	2
Ed. El. 305—Materials and Methods in Kindergarten-Primary Education	2

*Prereq., high school algebra and plane geometry.

Students will follow either A or B outline of the above requirements by quarters, in consultation with an assigned adviser. For transfer students a C plan will be followed. (Plan sheets available in Department of Elementary Education Office)

In addition to the general requirements each student majoring in elementary education will be expected to have at least 20 quarter hours of concentration in one field from any department in the University outside the College of Education, but including the School of Home Economics.

KINDERGARTEN-PRIMARY EDUCATION

A student majoring in elementary education may receive the kindergarten-primary certificate by completing the general pattern of the elementary curriculum as shown above. Student teaching must be done on the kindergarten-primary level and specialized courses in theory, materials, and methods of kindergarten-primary education must be taken as indicated by an adviser.

SPECIAL EDUCATION

Students who desire to validate the regular four-year provisional elementary certificate for teaching slow learning children in Ohio should complete the following courses as electives.

Ed. Sp. 371—Introduction to the Education of Exceptional Children and Youth	3
Ed. Sp. 372—Introduction to the Education of Mentally Retarded Children and Youth..	3
Ed. Sp. 373—Curriculum Development and Instructional Materials for Handicapped Children	3
Ed. Sp. 374—Teaching Communicative Arts to the Mentally Retarded	3
Ed. Sp. 375—Teaching Natural and Social Science to the Mentally Retarded	3
Ed. Sp. 376—Teaching Mathematics to the Mentally Retarded	3
Ed. Sp. 377—Problems of Post-School Adjust- ments for the Handicapped	3

BOOKKEEPING—BASIC BUSINESS

Acct. 101 and 102—Managerial	9
Acct. 103—Intermediate	5
B. Law 255, 256, 257—Legal Environment ..	9
Econ. 1 and 2 or 101 and 102—Principles ..	8
Geog. 116—Economic	3
Mkt. 155—Advertising Principles	3
Mkt. 255 and 256—Basic Principles	6
Mkt. 257—Analysis Marketing Principles	3
Mkt. 358—Sales and Sales Management	3
Fin. 251—Money and Banking	4
Mgt. 200—Management	4
Mgt. 430—Information Management	3
B. Comm. 120, 220, 320	9

ENGLISH COMPREHENSIVE

Eng. 70 and 80—English Composition	6
Select 9 hrs. from the following:	

Eng. 101—Interpretation of Fiction	
Eng. 102—Interpretation of Poetry	
Eng. 103—Interpretation of Drama	
Eng. 105—Introduction to Comparative Literature I.	
Eng. 201 or 202 or 203—Shakespeare	3
Eng. 204—Bible as Literature or Eng. 205—Introduction to Comparative Literature II., or Eng. 206—Studies of Oriental Literature	3
Eng. 229—Structure of American English ..	3
Eng. 301—History of the English Language ..	3
Eng. 231—Advanced Composition	3
Eng. 311—Early English Literature	3
Eng. 312—Renaissance English Literature ..	3
Eng. 313—Restoration and Neo-Classical Literature	3
Eng. 314—Romantic and Victorian Literature ..	3
Eng. 321—American Literature to Civil War ..	3
Eng. 322—American Literature from Civil War	3
Elective at 300 or 400 level	3
Elective at 400 level	3
Electives in English at 100 level or in one of the elective units	3

Inco. 1—Fundamentals of Speech (Students waived from Inco. 1 must take 3 additional hours in either English or in one of the elective units)	3
Electives in the following: (one year in one field)	

Theater:	
Inco. 20—Oral Interpretation	
D.A. 205—Play Production	
Elective	

Debate:	
Inco. 115—Principles of Argumentation	
Inco. 425—Introduction to Forensic Programs	
Elective	

Library Science:	
Lib. Sci. 101 and 102—The Use of Library Resources	
Lib. Sci. 301—History of Books and Printing	

Linguistics:

Ling. 170
Ling. 302
Ling. 370
Ling. 371

Comparative Arts/Philosophy:**HISTORY AND GOVERNMENT**

Hist. 1, 2, 3—Western Civilization	9
Hist. 111, 112, 113—United States History Survey	9
Hist. 328—Ancient History or Hist. 352a and Hist 352b—Medieval History	5-6
Electives in European and United States History at 200, 300, or 400 level with a minimum of 6 hours in each of the fields of European and United States History	
Electives in one of the following fields: Asian, African, Latin American, or Middle East at 200, 300, or 400 level	6-7
Of the above electives at least 16 hours must be at the 300-400 level, of which 4 hours must be at the 400 level.	
Govt. 1 and 2—National	8
Govt. 131 or 132 or 133—Comparative	3
Electives in Government	10
(One course must be at 400 level or above. Govt. 303 or 304 recommended)	

LATIN

Lat. 1, 2, 3—Basic	12
Thirty-nine hours of Latin above Lat. 3 selected from the following:	39
Lat. 101, 102, 103—Intermediate ..	12
Lat. 251, 252, 253—Latin Prose and Poetry	9
Lat. 401*—Life of the Romans	3
Lat. 411, 412, 413—Literature of the Republic	9
Lat. 415, 416, 417—Latin Literature of Early Empire	9
Lat. 419, 420, 421—Readings in Latin Literature	9
Lat. 433*—Advanced Latin Syntax ..	3

SECONDARY EDUCATION, ACADEMIC AND SPECIAL

The following are the *general requirements* for all students in the College of Education who plan to specialize in the teaching of the academic subjects in the secondary schools or the special subjects.

PROFESSIONAL REQUIREMENTS—

(36-38 hrs.)

Psych. 175—Educational Psychology	4
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Ed.Se. 120—Introduction to Secondary Education	3	Math. 250A and B—Introduction to Mathematical Statistics or Math. 450A and B—Theory of Statistics	6
or Ed.Se. 125—Purposes and Practices of Education, where appropriate		Math. 406A and B—Fundamentals of Mathematics	6
Ed.Pl. 260—Field Service in Education ..	2	Mathematics Electives—200 level or above ...	6
or Ed.Pl. 360—Field Experience in Public Schools		Elective at 400 level (except 440 through 459) ...	6
Ed.Se. 321—Principles of Teaching and Learning in the Secondary Schools ..	3	Phys. 113, 114, 115—General Physics	12
Ed.Se. 322—Introduction to Secondary Curriculum	3		
Ed.Se. 323—Instructional Methods and Practices in Secondary Schools	3		
Methods in Major Field	3-5		
Ed.Pl. 463, 464—Student Teaching in Secondary Schools	12		
(Ed.Pl. 461—Student Teaching in Elementary Schools—may be substituted for Ed.Pl. 464, where appropriate)			
Ed.Pl. 464—Student Teaching Seminar ..	3		
GENERAL EDUCATION REQUIREMENTS—(38-54 hrs.)			
Psychology	6		
Psych. 1 and 2—General Psychology .	6		
English	*9-12		
English 70 and 80—English Composition	6		
English 115—Great American Literature	3		
English 116—Great English and Continental Literature	3		
Fine or Applied Arts or Philosophy	9		
(Unless met by the major)			
In.Co. 1—Fundamentals of Speech ..	3		
Physical Education	3		
(As required for graduation)			
Mathematics or Natural Sciences—One year in one field:	9		
Biology, Botany, Zoology, Chemistry, Physics, Physical Science, Geology, or Mathematics (Unless met by major)			
Social Science—History, Government, Economics, Sociology, Geography, Social Science (Unless met by major)	*9-12		
*Depending on Major.			
Lat. 440—Special Work in Latin ...	2-6		
Students entering with four years of high school Latin should consult Chairman of Latin Department for placement.			
*Required.			
MATHEMATICS			
Math. 63A, B, C—Analytic Geometry and Calculus	13	Taxonomy:	
Math. 163A and B—Analytic Geometry and Calculus	6	Botany 140, 170, 171, 250, 270, 340, 341, 373, 472	
Math. 113A, B, C—Elementary Linear and Abstract Algebra	9	Zoology 310, 311, 330, 331, 333, 335, 336, 341, 342, 370, 371	
Math. 230A and B—College Geometry	6	Physiology:	
		Botany 260, 261, 464, 465	
		Zoology 145, 338, 346, 348, 350, 354, 355, 356, 363, 419	

MODERN LANGUAGES

Basic Lang. 1, 2, 3*	12
All students must have 56 hours above Lang. 3.	
Inter. Lang. 101**, 102, 103***	12
Lang. 209 and 210—Composition and Grammar Review	8
Lang. 331, 332, 333—Literature Survey	9
Lang. 341—Conversation or Lang. 342—Accelerated Conversation	3
Lang. 410—Language Laboratory	3
Lang. 437—Phonetics	3
Lang. 439—Structure or Lang. 441—Stylistics	3
Approved electives in the major language at the 400 level or above	9
Select 6 hours from the following:	6

History of the Country

Linguistics

Cultural Anthropology

Culture and Civilization of the Country

*Students entering with 2 years of the foreign language begin the major with Intermediate Language 101 and complete all the rest of the above requirements.

**Students entering with 3 years of language enroll in Language 101 unless otherwise advised by the Language Department.

***Students entering with 4 years of the foreign language begin major with either Language 196 or Language 209. Please see the Chairman of the Language Department for appropriate placement. Students starting with Language 196 must take 9 quarter hours in the language beyond the stated requirements. Students starting with Language 209 must take 12 quarter hours in the language beyond the stated requirements.

BIOLOGICAL AND GENERAL SCIENCE COMPREHENSIVE

Chem. 10, 11, 12—General Chemistry	12
Phys. 5, 6, 7—Introduction to Physics	12
Math. 5—Introduction to Mathematics	3
Zool. 3 and 4—Principles of Zoology	8
Bot. 4, 5, 6—General Botany	12

AND: A minimum of 3 hours chosen in each of the following areas for a total of at least 11 credits in each of the two disciplines of botany and zoology.

Taxonomy:

Botany 140, 170, 171, 250, 270, 340, 341, 373, 472
Zoology 310, 311, 330, 331, 333, 335, 336, 341, 342, 370, 371

Physiology:

Botany 260, 261, 464, 465
Zoology 145, 338, 346, 348, 350, 354, 355, 356, 363, 419

Ecology:

Botany 120, 320, 321
Zoology 5, 375, 476

Morphology:

Botany 110, 111, 112, 210, 330, 331
Zoology 100, 101, 103, 304, 305, 306-307,
309

Genetics and Evolution:

Botany 432
Zoology 125, 126, 379, 427, 428

EARTH SCIENCE COMPREHENSIVE

Chem. 10, 11, 12—General Chemistry	12
Phys. 5, 6, 7—Introduction to Physics	12
Math. 5—Introduction to Mathematics and Math. 6—Analytic Trigonometry	5
Astro. 111 and 112—Elementary	6
Geol. 3, 4, 5—Elements	9
Geol. 130—Rocks and Minerals	5
Geol. 123—Principles of Geomorphology	4
Geog. 20 and 21—World Regional Geography	6
Geog. 111—Elements of Meteorology	3
Geog. 112—Elements of Climatology	3

Select one of the following:

Geog. 202—Geography of Eastern United States and Canada or Geog. 204—Geography of Western United States and Canada or Geog. 231—Geography of Ohio

Select one of the following areas:*

Botany 3, 4, 5—General Botany

Zool. 3 and 4—Principles of Zoology

*For those wishing certification in general science, Bot. 3, 4, and 5 and Zool. 3 and 4 are required. For those wishing certification in Biological Science as well as General Science an additional 3 hour zoology course is required.

**PHYSICAL SCIENCE
COMPREHENSIVE CHEMISTRY
EMPHASIS**

Botany 4, 5, 6—General Botany	12
Zoology 3 and 4—Principles of Zoology	8
Math. 63A, B, C—Analytic Geometry and Calculus	13
Chem. 10, 11, 12—General Chemistry	12
Phys. 5, 6, 7 or 113, 114, 115—Introduction to Physics	12
Additional study in Chemistry	24
Selected from the following:	
Chem. 100—Chemical Calculations	2
Chem. 101 and 102—Organic Chemistry	6
or	
Chem. 105, 106, 107—Organic Chemistry	9
Chem. 103 and 104—Organic Chemistry	3
or	
Chem. 108 and 109—Organic Chemistry Laboratory	4

Chem. 126—Quantitative Analysis ..	5
or	
Chem. 326 and 327—Quantitative Analysis	8
Chem. 351—Physical Chemistry	4

Any other courses for which prerequisites have been met.

**PHYSICAL SCIENCE
COMPREHENSIVE
PHYSICS EMPHASIS**

Biological Science	12
Select 8 hours of zoology and 4 hours of botany or 8 hours of botany and 4 hours of zoology.	
Math. 63A, B, C—Analytic Geometry and Calculus	13
Math. 163A and B—Analytic Geometry and Calculus	6
Math. 240—Differential Equations	5
Chem. 10, 11, 12—General Chemistry	12
Physics 5, 6, 7—Introduction to Physics or Phys. 113, 114, 115—General Physics	12
Additional study in physics selected from the following:	24
Phys. 219—Intermediate Physics	3
Phys. 210—Intermediate Laboratory	1
Phys. 301 and 302—Mechanics	6
Phys. 316—Contemporary Physics	3
Phys. 319 and 320—Electricity and Magnetism	6
Phys. 433, 434, 435—Atomic and Nuclear Laboratory	6
Phys. 429—Basic Electrical Measure- ments Laboratory—Phys. 430— Radio Frequency Measurements Laboratory—Phys. 431—Pulse Electronics Laboratory	6

Any other courses for which prerequisites have been met.

SOCIAL STUDIES COMPREHENSIVE

Hist. 1, 2, 3—Western Civilization	9
Hist. 111, 112, 113—United States History Survey	9
Hist. 328—Ancient History or Hist. 352a and Hist. 352b—Medieval History	5-6
Electives in European and U.S. History at the 200, 300, or 400 level with a minimum of six hours in each of the fields of European and U.S. History	18
Electives in one of the following fields:	6-7
Asian, African, Latin American, or Mid- dle East History at 200, 300, or 400 level. Of the above electives at least 16 hours must be at the 300-400 level of which 4 hours must be at the 400 level.	
Govt. 1 and 2—National Government	8
Govt. 131, 132 or 133—Comparative Government	3
Soc. 1—Introduction to Sociology	5

Econ. 1—Principles of Economics	4	P.E.I.A. 265, 266, and 267—Program Skills ..	7
Ed. Se. 549—Economic Education Programs ..	3	P.E.I.A. 268—Football Skills	2
Geog. 113—Physical or 114—Cultural	4	P.E.I.A. 281—Administration of Intramural	
Electives: Elect one of the following fields at the 200 level or above—Economics, Geog- raphy, Sociology, Government or Psychol- ogy, (not to include Psych. 1, 2, and 175)	5-7	Sports	3

ART

F.A. 121, 122, 123—Introduction to the Fine Arts	9
Art 1, 2, 3—Drawing and Design	9
Art 21, 22, 23—Sculpture	9
Art 101—Drawing and Design	3
Art 228—Figure Drawing	3
Art 205—Painting	3
Art 215—Ceramics	3
Art 241—Lithography or Art 244—Intaglio or Art 247—Relief Printmaking or Art	3
248—Silk Screen Printmaking	3
Art 360—Workshop	3
Art 460—Teaching of Art	3
Des. 233—Lettering	3
Electives:	

Art-Drawing or Prints	3
Art-Painting	6
Art-Crafts	9

Art Major: 36 hours above 100 in two areas—
Painting, Sculpturing, Ceramics, or Print-
making; selected in consultation with
adviser.

INDUSTRIAL ARTS

I.T. 15—Metal Fabrication	3
I.T. 16—Metal Machining	3
I.T. 120—Small Engines	3
I.T. 132—Industrial Electricity	5
I.T. 170—Technical Report Writing	1
I.T. 201—Ceramics Production	3
I.T. 244—Graphic Processes	5
I.T. 250—Wood Industry for Teachers	5
I.T. 308—Plastics Forming	3
I.T. 310—Patternmaking and Foundry	3
I.T. 320—Hydraulic Controls	3
I.T. 361—Industrial Arts Design	2
I.T. 390—Industrial Materials	3
E.G. 1—Engineering Drawing	3
E.G. 2—Engineering Drawing	3
I.T. and E.G. Technical Electives	25
(Concentrated in two fields)	
Chem. 10 and 11—General Chemistry	8
Math. 5—College Algebra	3
Phys. 5, 6, 7—Heat, Electricity, Light	12
Mgt. 200—Management	4

PHYSICAL EDUCATION—MEN

P.E.I.A. 61—Introduction	2
P.E.I.A. 202—Personal and Community Health	4
P.E.I.A. 227—First Aid	3
P.E.I.A. 250—Recreation	5

P.E.I.A. 265, 266, and 267—Program Skills ..	7
P.E.I.A. 268—Football Skills	2
P.E.I.A. 281—Administration of Intramural	
Sports	3
P.E.I.A. 321, 322, and 323—Program Skills ..	6
P.E.I.A. 333—Theory of Adapted Activities ..	3
P.E.I.A. 334—Program Techniques	1
P.E.I.A. 365, 366, 367, and 368—Athletic	
Coaching	12
P.E.I.A. 404—History and Principles of Physi- cal Education	5
P.E.I.A. 406—Organization and Administra- tion of Physical Education	5
P.E.I.A. 495—School Health Problems or Psych. 173—Child and Adolescent Psy- chology or Phych. 131—Psychology of	
Adjustment	3-5
P.E.I.A. 409—Tests and Measurements	5
Zool. 3—Introduction	4
Zool. 101—Human Anatomy	6
Zool. 102—Kinesiology	3
Zool. 145—Human Physiology	4

PHYSICAL EDUCATION—WOMEN

Zool. 3—Introduction	4
Zool. 101—Human Anatomy	6
Zool. 102—Kinesiology	3
Zool. 145—Human Physiology	4
P.E.I.A. 2, (3, 4, 5 if needed)	1-4
P.E.I.A. 7, 8, 9—Modern Dance	3
P.E.I.A. 15—Folk Dance	1
P.E.I.A. 41—Beginning Golf	1
P.E.I.A. 165, 166, 167—Program Skills	6
P.E.I.A. 202—Personal and Community	
Health	4
P.E.I.A. 221, 222, 223—Program Skills	6
P.E.I.A. 226—First Aid	3
P.E.I.A. 250—Recreation	5
P.E.I.A. 267 Elementary School Physical	
Education	3
P.E.I.A. 333—Theory of Adapted Activities ..	3
P.E.I.A. 370—Teaching Methods I	2
P.E.I.A. 371—Teaching Methods II	2
P.E.I.A. 372—Teaching Methods III	2
P.E.I.A. 374 and 375—Teaching of Rhyth- mics and Teaching Methods in Modern	
Dance	2
P.E.I.A. 404—History and Principles of Physi- cal Education	5
P.E.I.A. 406—Organization and Administra- tion of Physical Education	5
P.E.I.A. 409—Tests and Measurements in	
Physical Education	5
P.E.I.A. 495—School Health Problems	5

SPEECH, GENERAL

InCo. 3—Public Speaking	4
InCo. 7—Voice and Articulation	2
InCo. 20—Oral Interpretation	3
InCo. 115—Argumentation and Debate	3
InCo. 234 and 235—Communication Proce- dures I and II	8

InCo. 205—Teaching of Group Discussion ..	4
InCo. 17 or 317—Forensic Workshop	2
InCo. 350—Introduction to Rhetorical Theory	3
InCo. 425—Direction of Forensic Programs ..	3
SPSA. 236—Speech Correction for Classroom Teachers	3
ThAr. 30A, B, C—Production I, II, III.....	6
ThAr. 130A, B, C—Production IV, V, VI ..	6
ThAr. 37—Makeup	1
ThAr. 115—Acting	1
ThAr. 360 and 361—Directing I and II ..	6
ThAr. 170, 171, 172—History of Visual Theater	9
R-TV. 441—Instructional Methods in Educa- tional Radio-Television	5
Select one course from the following:	3
R-TV. 310—Principles of Television Produc- tion	
R-TV. 340—Radio-Television in Education	
R-TV. 370—Broadcasting and the Public	

SPEECH PATHOLOGY, AUDIOLOGY, AND SPEECH SCIENCE

InCo. 3*—Public Speaking	3
InCo. 20—Oral Interpretation <i>or</i>	
InCo. 115—Principles of Argumentation	3
SPSA. 7*—Articulation and Voice	2
SPSA. 107—Introduction to Speech Disorders	3
SPSA. 208—Phonetics I	3
SPSA. 210—Language Development I	3
SPSA. 213—Speech and Hearing Mechanisms I	3
SPSA. 250—Speech Science	3
SPSA. 270—Basic Audiology	3
SPSA. 311—Language Development II	3
SPSA. 314—Speech and Hearing Mechanisms II	3
SPSA. 315—Stuttering I	3
SPSA. 318—Disorders of Articulation	3
SPSA. 319—Disorders of Voice	3
SPSA. 351—Speech Science Lab Methods ...	3
SPSA. 371—Auditory Rehabilitation	3
SPSA. 416—Stuttering II	3
SPSA. 422—Diagnostic Procedures in Speech Pathology	3
SPSA. 424—Neuropathologies of Speech and Language	3
SPSA. 435—Practicum in Diagnosis and Therapy	1-3
SPSA. 472—Auditory Disorders in Children ..	3
Psych. 131—Psychology of Adjustment	3
Psych. 173—Child and Adolescent Psychology	5
Psych. 375—Psychology of Exceptional Chil- dren	4

*May be waived with sufficient proficiency

No candidate will be considered for the degree, or for recommendation for a teaching certificate, who has not completed, under the supervision of Ohio University, at least 12 quarter hours of observation, participation, and student teaching.

APPLICATION

It is the responsibility of the student to enter an application for student teaching in the office of the Director of Student Teaching, not later than December 15 preceding the academic year in which a student teaching assignment is desired.

SCHEDULE AND FACILITIES

Students experience the complete range of the teacher's activities in full-time student teaching assignments for one quarter. All students must plan carefully during the first three years of college to provide for a completely free quarter to engage in full-time student teaching. Majors in elementary education will follow a plan providing for student teaching in the last quarter of the junior year or the first or second quarter of the senior year. Majors in secondary academic areas and special fields will normally be assigned to student teaching during one of the quarters of the senior year.

Most of the student teaching assignments will be off-campus centers. Students must provide their own transportation to their assignments. Privately owned cars will be needed unless the student is assigned to an off-campus center where he may secure housing within walking distance of the school to which he is assigned. Only a few elementary majors can be assigned within walking distance of University housing units in Athens. Personally owned transportation will be needed by virtually all students who request the Athens area. The University assumes no responsibility for the transportation of students.

PREREQUISITES FOR STUDENT TEACHING

General Prerequisites.

1. Residence: Completion of at least two quarters (30 quarter hours) of residence

STUDENT TEACHING

Successful student teaching represents the culmination of the program of professional preparation; it is a requirement for the degree, Bachelor of Science in Education.

- work, including nine credit hours on the Athens campus.
2. Completion of at least 120 quarter hours of course credit in elementary and 135 quarter hours in secondary education.
 3. Scholastic Average: The student must have a point-hour ratio of 2.0 (C) on all hours attempted, and specifically a 2.0 on all hours taken at Ohio University, excluding transfer credit.
 4. Admission to junior standing in teacher education at least one full quarter prior to student teaching.

Special Prerequisites for Student Teaching in Elementary Education.

1. 2.25 cumulative point-hour ratio on all courses completed in the following group, and specifically a 2.25 on the courses in this group taken at Ohio University: Ed. El. 100, Ed. El. 310, Ed. El. 320, Ed. El. 321, Ed. El. 330, Ed. El. 340, Ed. El. 350, Art 260, Music 61, and Psych. 175.
2. Completion of 9 quarter hours which include Ed. El. 310, Ed. El. 330, on the Athens Campus.
3. Completion of all courses required (prior to the designated student teaching quarter) as indicated on the student's planned program outline (A, B, or C).

Special Prerequisites for Student Teaching in Secondary Academic and Special Subjects.

1. Completion of Psych. 175, Ed. Se. 120 or Ed. Se. 125, Ed. Se. 321, Ed. Se. 322, Ed. Se. 323, and a methods course in the major teaching field, attaining a cumulative point-hour ratio of 2.25 and specifically a 2.25 on all of these courses taken at Ohio University. Two of the three courses: Ed. Se. 321, Ed. Se. 322, Ed. Se. 323 must be completed on the Athens campus.
2. Students preparing to teach in one field must complete a comprehensive major. If a comprehensive major is not completed, the student must be prepared in two teaching fields.

3. Completion of a major portion (at least three-fourths) of the work in each of the teaching fields in which the student wishes to be certified. A cumulative point-hour ratio of 2.25 must be attained in the principal teaching field, and specifically a 2.25 on the courses taken at Ohio University in this field. An average of at least a 2.0 must be achieved in the second teaching field and in each principal component of the comprehensive majors. Transfer students must complete at Ohio University at least one-fourth of the preparation in the principal teaching field.
4. Completion of the general education requirements for certification in accordance with a pattern adopted by the University, consistent with the State Certification Laws and Regulations.

TEACHING CERTIFICATES

A student who plans to teach in Ohio makes application for a teaching certificate at the time of application for graduation. The teaching certificate is issued by the State Department of Education upon the recommendation of the Dean of the College of Education, and qualifies the student to teach the subjects indicated on the certificate.

Completion of requirements for graduation and of the professional courses required for certification does not insure that the individual will be recommended for certification. Instructors in various courses, and especially in courses in education and student teaching, will attempt to evaluate a student's fitness for the teaching profession in ways other than observation of academic performance in the classroom. Any reports of limitations which might tend to impair the individual's usefulness as a teacher in the public schools will be made a part of the student's record. When the student makes application for certification this record will be examined and the question of his fitness for teaching will be given further consideration.

Students who are not planning to teach in Ohio should inform themselves concern-

ing the requirements specified by the department of education of the state in which they expect to teach.

A student who plans to teach in the elementary grades registers in the College of Education when he has completed the requirements of the University College. The curricula offered by the College of Education include the requirements of the State Department of Education and qualify a student to obtain a provisional certificate to teach in the elementary grades or the kindergarten-primary grades, depending upon the student's preparation.

Students who plan to teach high school academic or special subjects ordinarily enroll in the College of Education. The curricula of the College of Education include the requirements of the State Department of Education, and qualify the student to obtain a provisional certificate to teach the subjects indicated on the certificate.

MINORS. A minor in Library Science for teachers may be secured by secondary teachers by completing 24 quarter hours from the following:

L. Sc. 101, 102—

The Use of Library Resources 6

L. Sc. 103—

The School Library 5

L. Sc. 201—

Library Services for Children 5

L. Sc. 202—

Books for High School Readers ... 5

L. Sc. 203—

Classification and Cataloging 5

L. Sc. 301—

History of Books and Printing 3

L. Sc. 302—

Advanced Library Studies 2-5

Ed. El. 221—

Children's Literature 3

Ed. AV. 380—

Audio-Visual Teaching Aids 3

MAJOR FIELD OF SPECIALIZATION. A major field of specialization, unless it includes the word *comprehensive*, must be accompanied by a second certifiable field. The level of preparation in the major area of

specialization must correspond with the outline provided in the preceding pages, even though these requirements in many instances exceed those shown in the state certification regulations.

SECOND TEACHING FIELD. The level of preparation in the second certifiable field must equal or exceed requirements shown in the regulations of the Division of Certification of the State Department of Education.

CENTER FOR EDUCATIONAL RESEARCH AND SERVICE

The Center for Educational Research and Service is a division of the College of Education and is designed to make available the resources of the College of Education and of the University to educational workers—teachers, administrators, and supervisors. These services are also available to boards of education and to the public communities served by Ohio University.

The Center's chief functions are: (1) to provide consultant services in such areas as curriculum planning, use of community resources, economic education, guidance programs, school-community relations, reading, testing, and supervisory and administrative problems (such consultative services may involve one of several staff members and may be a single meeting or a series of conferences and meetings); (2) to conduct school surveys of educational programs and curricula, school building and site needs, and organization of school districts; (3) to assist in the solution of professional problems through off-campus and on-campus workshops; (4) to promote conferences on vital problems confronting public education; (5) to publish those studies and reports which will aid in solving educational problems, and to distribute such publications; (6) to assist schools with the organization of revision of programs of reading (especially for exceptional children), guidance and testing; and (7) to encourage cooperative attack by teachers, administrators, boards of education, and the public toward solution of educational needs.

THE UNIVERSITY LABORATORY SCHOOL

The College of Education of Ohio University maintains the University Laboratory School, consisting of a four-year and a five-year kindergarten, and grades one through six. The first function of this school is to furnish the best possible learning environment and instruction for children, since this is essential if good laboratory experiences are to be made available to college students who are training for elementary teaching or supervision. Teachers in the University Laboratory School are members of the university staff with training in elementary education and supervision, and successful teaching experience.

EDUCATIONAL PLACEMENT BUREAU

The Educational Placement Bureau, located in McCracken Hall, offers assistance to undergraduate and graduate students of the University who are seeking educational positions.

Information concerning available teaching and administrative positions in the public schools, as well as openings in education, student personnel, home economics, counselor education, industrial arts and physical education departments of colleges and universities of most states and many foreign countries is disseminated through the Bureau.

There is a \$2.00 initial registration fee. An additional \$2.00 fee is charged for alumni who wish to have the placement services made available to them.

CENTER FOR INTERNATIONAL PROGRAMS

The Center for International Programs was established to systematize Ohio University's activities in exploring, coordinating, and administering overseas projects. Currently the Center has four major projects:

1. The Western Region, Nigeria, at Ibadan where the program now includes three areas: elementary and secondary teacher training, commercial teacher training, and an in-service education program.

2. The Northern Region, Nigeria, at Kano where Ohio University is assisting the Northern Region in establishing a new college for teachers.

3. Vietnam, where the program calls for assistance in developing and expanding teacher training programs at the Universities of Hue, Saigon, and Can Tho for secondary schools and for the development of 13 model comprehensive high schools.

These programs are in cooperation with the Agency for International Development (AID).

4. The most recent program was started in 1966 as the result of a Ford Foundation grant designed to extend and further develop in-service education in Nigeria.

COOPERATIVE CENTER FOR SOCIAL SCIENCE EDUCATION

The Cooperative Center for Social Science Education is concerned with program development in the social sciences in elementary, secondary, and teacher training levels.

Working together in this activity are a number of public schools representing regional areas from New York to Oregon.

Throughout the year, the Cooperative Center carries on in-service projects and provides consultant services to the cooperating schools. An international studies advisory council composed of foreign students and university professors works with teacher committees in the schools in the development of cultural and area studies aspects of social science curricula.

The Cooperative Center is supported by funds from the cooperating schools and from Ohio University.

THE SCHOOL OF HOME ECONOMICS

Beulah E. Sellers, *Director*

Home economics is a diversified field of study. Its unique purpose is to integrate the contributions of the physical, biological, and social sciences, philosophy, and art into one functional whole for service for families.

The curriculum of the School of Home Economics has three specific purposes: general education for personal and family living, specialization in various areas of home economics for professional persons desiring to work directly or indirectly with families, and courses planned to enrich the professional preparation of students enrolled in other colleges. The program is both cultural and professional including:

General education in communications, natural science, humanities, social science, and art.

Basic courses in all areas of home economics.

Professional courses in the major field and related areas.

The School of Home Economics offers thirteen professional curricula leading to the Bachelor of Science in Home Economics degree. In addition, four curricula are offered for those following the two-year terminal program leading to the Associate in Arts degree. Graduate work leading to either the Master of Science or the Master of Education degree is also offered (see Graduate College Bulletin).

Students have a wide choice in selecting a field of specialization. Professional curricula are offered in the following departments:

Child Development and Family Life
Foods and Nutrition
Home Economics Education and Extension
Housing, Furnishings and Management
Textiles and Clothing

SPECIAL FACILITIES

The program in home economics provides for a variety of activities and experience. Two nursery schools and two home management houses are maintained on campus. Local high school home economics laboratories are available for student teaching. The School of Home Economics is approved by the State of Ohio Department of Education for training vocational home economics teachers. Off-campus activities have been developed with the Ohio State Cooperative Extension Service, the Health Department, business organizations, depart-

ment stores, hospital dietary departments, and radio-television stations to give the students opportunities for field work in specialized areas. Affiliation with the Merrill-Palmer Institute in Detroit, Michigan, provides a unique experience for the junior or senior desiring a semester of specialized training in all areas related to marriage and the family.

ELECTIVE COURSES AND SPECIAL PROGRAMS

The School of Home Economics offers a group of core courses that have no prerequisites, and are open to any student in the University. Individual courses may be elected. Special seminars or workshops for international students or for students who want to prepare for international service are offered each quarter. (See program listed under Courses of Instruction).

DEGREE REQUIREMENTS FOR ALL HOME ECONOMICS MAJORS

Candidates for the degree of Bachelor of Science in Home Economics must fulfill the general requirements of the University, must complete a minimum of 184 hours, plus any physical education in excess of three hours. A point-hour ratio of 2.0 (C) is required on all hours attempted, but includes only final hours and grade points on repeated courses.

Opportunities for the professional home economist have never been greater in the business and professional world. Career opportunities are listed under each professional option. All majors in any field of home economics will take courses listed under requirements in general education, requirements in home economics, basic course requirements in the major field of study, and requirements for the option selected in the area of specialization.

REQUIREMENTS IN GENERAL EDUCATION

Basic Courses in general education required of all majors in home economics include:

Eng. 70, 80—Composition	6
INCO. 1—Fundamentals of Speech	3
S&A. 1—Introduction to Sociology or	
S&A. 101—Principles of Sociology	5

Psyc. 1 or 101—General Psychology I	3
Psyc. 2 or 102—General Psychology II	3
Econ. 1 or 201—Principles of Economics	4
Science—(See Professional Curricula)	9-18
Humanities—(See Professional Curricula)	3-9
Literature—(See Professional Curricula)	3-6
Art—(See Professional Curricula)	3
Physical Education—(See Professional Curricula)	3
Electives in general education to total 75 hours.	

REQUIREMENTS IN HOME ECONOMICS

Basic courses in home economics required of all majors include:

H.Ec. 1—Orientation in Home Economics	2
H.Ec. 28—Introduction to Nutrition	3
H.Ec. 62—Child Development I	3
H.Ec. 80—Furnishing Today's Home	3
H.Ec. 215—Textiles and Dress in Modern Living	2
H.Ec. 270—Family Living II	3
H.Ec. 395—Home Management	3
H.Ec. 396—Home Management Laboratory	4

REQUIREMENTS FOR PROFESSIONAL CURRICULA**CHILD DEVELOPMENT AND FAMILY LIFE**

Basic course requirements for all child development and family life majors.

H.Ec. 63—Child Development II	3
H.Ec. 170—Family Living I	3
H.Ec. 263—Principles of Preschool Guidance	3
H.Ec. 462—Readings in Child Development	3
H.Ec. 470—Readings in Family Living	3
Psyc. 175—Educational Psychology (4),	
Psyc. 315—Psychology of Individual Differences (4),	
Psyc. 333—Psychology of Personality I (3),	
Psych. 334—Psychology of Personality II (3),	
or approved substitutes	14

S&A. 220—Introduction to Family Sociology	4
SPAS 210—Language Development I or	

SPAS 236—Speech Correction for the Classroom Teacher	3
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L.Sc. 101—Use of Library Resources	3
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Zoo. 3—General Zoology I (4)	
Zoo. 4—General Zoology II (4)	

Zoo. 5—General Zoology III (3), or	
approved substitutes in Science*	11

Approved electives in Humanities*	9
Approved electives in Literature*	3

Art	3
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Select one option for area of specialization

Option A:

Nursery School Teaching—Prepares students for teaching in nursery schools and day care centers, head start programs, and schools for handicapped children.

H.Ec. 119—Home Nursing and Family Health	2
H.Ec. 262—The Nursery School	2

H.Ec. 363—Creative Experiences with Preschool Children	4
H.Ec. 364—Nursery School Practicum	6
H.Ec. 463—Preschool Administration	3
H.Ec. 432—Infant and Child Nutrition	3
Ed.El. 305—Materials and Methods for Kindergarten Teaching	3
Ed.El. 321—Literature for Children	3
Mus. 60—Music Fundamentals	3
Art 102—Drawing and Design	3
Art 260—Art in the Elementary School	3
Approved electives to total 40 hours*	

*Approval from Chairman of the Department.

Option B:

Child Development—Community Service—prepares students for graduate study in child development, or for work with community agencies, children's hospitals, clinics, children's homes, and head start programs.

H.Ec. 190—Family Consumer Economics	3
H.Ec. 399f—Field Work	4
H.Ec. 429—Community Nutrition (3), or	
H.Ec. 432—Infant and Child Nutrition (3)	3
Psyc. 121—Elementary Statistics (4), and	
Psyc. 242—Introduction to Psychological Tests (5) or approved substitutes*	9

S&A. 130—Social Problems (4), and	
S&A. 290—Social Welfare I (3), and	
S&A. 291—Social Welfare II (3), and	
S&A. 292—Social Welfare III (3), and	
S&A. 390—Social Work (4), or	
approved substitutes*	17

Approved electives to total 40 hours

*Approval from Chairman of the Department.

Option C:

Family Life—Community Service—prepares students for graduate study in family life, or for work with youth programs, community recreation, settlement houses, and family service agencies.

H.Ec. 190—Family Consumer Problems	3
H.Ec. 471—Family Life Education	3
Approved electives in psychology*	18
Approved electives in sociology and	

anthropology*	9
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Approved electives to total 40 hours.

*Approval from Chairman of the Department.

FOODS AND NUTRITION

Basic course requirements for all foods and nutrition majors.

H.Ec. 22—Food Science and Principles	3
H.Ec. 123—Meal Management	3
Chem. 10, 11—General	8
Chem. 12—Qualitative Analysis	4
Chem. 201, 202—Organic Lecture	6
Zoo. 310—Bacteriology	4
Humanities	3
Literature	3
Art	3

Select one option for area of specialization

*Approval from Chairman of the Department.

Option A:

Dietetics—qualifies students for the American Dietetic Association hospital internships leading to careers as therapeutic and administrative dietitians. Some will teach in hospitals, work with institutes, dietetic and medical associations and clinics.

H.Ec. 327—Teaching of Foods and Nutrition	3
H.Ec. 422—Experimental Foods	3
H.Ec. 428—Advanced Nutrition	4
H.Ec. 430—Diet Therapy	3
H.Ec. 434—Food Production and Service	4
H.Ec. 435—Purchasing and Cost Control	4
H.Ec. 436—Equipment, Maintenance and Layout	3
H.Ec. 437—Organization and Management	3
H.Ec. 438—Advanced Food Production Mgt., or	
H.Ec. 399C—Field Work in Home Economics	2-4
Elective in Advanced Foods	3-6
Elective in Advanced Nutrition	3-6
Acct. 101—Managerial Accounting	5
Econ. 2 or 202—Principles	4
Psyc. 175—Educational	4
Psyc. 261—Industrial, or	
Mgt. 220—Administration of Personnel	4
Zool. 145—Human Physiology	4
Zool. 363—Biochemistry	3
Approved general education electives*	2-6
Electives	24-32

Option B:

Restaurant and Food Service Administration—prepares students for careers in management and supervision in hotels, motels, restaurants, public schools, residence halls and industry. This curriculum meets the requirements of the National Restaurant Association and the American Dietetic Association for apprentice or internship training in leading food service establishments.

H.Ec. 15—Textiles	3
H.Ec. 422—Experimental Foods	3
H.Ec. 327—Teaching of Foods and Nutrition	3
H.Ec. 428—Advanced Nutrition, or	
H.Ec. 432—Infant and Child Nutrition	3-4
H.Ec. 434—Food Production and Service	4
H.Ec. 435—Purchasing and Cost Control	4
H.Ec. 436—Equipment, Maintenance and Layout	3
H.Ec. 437—Organization and Management	3
H.Ec. 438—Advanced Food Production	2-4
Approved electives in foods and nutrition*	6
Econ. 2 or 202—Principles	4
Acct. 101, 102—Managerial Accounting	9
Mgt. 200—Management	4
Mkt. 255—Basic Concepts of Marketing I	3
Bus. 255, 256, 257—Legal Environment I, II, III	9
Econ. 470—Labor, or	
Mgt. 425—Industrial Relations	4
Mgt. 220—Administration of Personnel	4
Fin. 221, 222—Managerial Finance	6

*Approval from Chairman of the Department.

Approved electives in psychology*	6
Bus.C. 120, 220—Business Communications I, II	6
Zool. 145—Human Physiology	4
Approved general education electives*	3
Electives	5-10

Option A:**Experimental Foods and Nutrition**

Emphasis I—Commercial Foods and Equipment—prepares students for promotional work with utility companies, food or equipment companies, newspapers and magazines.

H.Ec. 190—Family Consumer Economics	3
H.Ec. 229—Cultural and Nutritional Aspects of Foods	3

H.Ec. 320—Creative Cookery and Food Styling	3
H.Ec. 323—Comparative Studies in Foods	3

H.Ec. 341—Demonstration Techniques	3
H.Ec. 391—Household Equipment	3

H.Ec. 422—Experimental Foods	3
H.Ec. 423—Food Product Development	3

H.Ec. 434—Food Production and Service	4
H.Ec. 492—Household Equipment Techniques	3

Approved electives in nutrition†	3-4
Psyc. 162—Psyc. of Advertising and Selling	3

Jour. 441—Magazine and Feature Writing	4
Econ. 2 or 202—Principles	4

INCO 3—Public Speaking	4
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Approved electives in business and/or communications*	15
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Approved general education electives*	4-19
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Electives	10-23
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†Students wishing to meet academic requirements of the American Dietetic Association should take H.Ec. 428 plus Zool. 145, Zool. 363, personal management or industrial psychology, and educational psychology.

*Approval from Chairman of the Department.

Emphasis II—Foods and Nutrition with Science—prepares students for graduate study or careers in nutrition with clinics, institutes, associations and welfare agencies.

H.Ec. 190—Family Consumer Economics	3
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H.Ec. 229—Cultural and Nutrition Aspects of Food	3
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H.Ec. 320—Creative Cookery and Food Styling	3
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H.Ec. 323—Comparative Studies in Foods	3
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H.Ec. 327—Teaching of Foods and Nutrition	3
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H.Ec. 422—Experimental Foods	3
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H.Ec. 423—Food Product Development, or	
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H.Ec. 434—Food Production and Service	3-4
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H.Ec. 428—Advanced Nutrition	4
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H.Ec. 429—Community Nutrition	3
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H.Ec. 430—Diet Therapy	3
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H.Ec. 431—Studies in the Science of Nutrition	3
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H.Ec. 432—Infant and Child Nutrition	3
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Chem. 226—Quantitative Analysis	5
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Chem. 203, 204—Organic Laboratory	2
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Zool. 145—Human Physiology	4
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Zool. 363—Biochemistry Lecture I	3
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Psyc. 175—Educational Psychology	4
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Approved general education electives*	0-3
Electives†	35-39

*Students wishing to meet academic requirements of the American Dietetic Association should elect one of the following: Mgt. 220, Psyc. 261, or Statistics.

HOME ECONOMICS EDUCATION AND EXTENSION

Option A:

Home Economics Education—prepares students for teaching home economics in the junior and senior high schools and adult education programs.

Basic course requirements for all home economics education majors.

H.Ec. 10—Theory of Clothing Construction	2
H.Ec. 12—Principles of Clothing Construction	3
H.Ec. 15—Elementary Textiles	3
H.Ec. 22—Food Science and Principles	3
H.Ec. 123—Meal Management	3
H.Ec. 119—Home Nursing and Family Health	2
H.Ec. 190—Family Consumer Economics	3
H.Ec. 263—Principles of Preschool Guidance	3
H.Ec. 391—Household Equipment	3
H.Ec. 340—Teaching of Home Economics	3
H.Ec. 440—Seminar in Home Economics Education	3

Approved electives selected from 300 to 400 level courses in the following areas:*

Child Development and Family Life	3-6
Foods and Nutrition	3-6
Housing, Furnishings, and Management	3-6
Textiles and Clothing	3-6
Science—biology, chemistry, physical world, or zoology	9-12
Zool. 310—Elementary Bacteriology	4
Fine or applied arts or philosophy	6-9
Literature electives	6
Psyc. 175—Educational Psychology	4
Ed. Pl. 360—Field Experience in Public Schools	2
Ed. Se. 120—Introduction to Secondary Education	3
Ed. Se. 321—Principles of Teaching and Learning in the Secondary School	3
Ed. Se. 322—Introduction to Secondary Curriculum	3
Ed. Se. 323—Instructional Methods and Practices in the Secondary Schools	3
Ed. Pl. 463,464—Student Teaching in Secondary Schools	12
Electives	6-9

Option B:

Home Economics Extension—prepares students for positions with the Cooperative Extension Service. Home economics extension majors take all basic course requirements listed above for home economics education majors.

Other suggested courses:

H.Ec. 341—Demonstration Techniques	3
H.Ec. 441—Methods in Home Economics Education	3
H.Ec. 444—Home Economics in Adult Education	3

HOUSING, FURNISHINGS AND MANAGEMENT

Option A:

Home Planning and Decoration — offers basic preparation that qualifies students for initial positions in the field of home furnishings and interior decorating.

Basic course requirements for all home planning and decoration majors.

H.Ec. 10—Theory of Clothing Construction	2
H.Ec. 12—Principles of Clothing Construction	3
H.Ec. 15—Elementary Textiles	3
H.Ec. 22—Food Science and Principles	3
H.Ec. 80—Furnishing Today's Home	3
H.Ec. 180—Family Housing	3
H.Ec. 380—Home Furnishings Workshop	4
H.Ec. 480—Advanced Home Furnishings	3
H.Ec. 481—Contemporary Design in Furnishings	3
H.Ec. 482—Design in Home Accessories	3

Approved required courses in art 21-35
*Approval from Chairman of the Department.

C.A. 17,18,19, or 117,118,119—Introduction to Fine Arts	9
Econ. 2 or 102—Principles of Economics	4
Mkt. 155—Advertising Principles	5
Mkt. 255—Basic Concepts of Marketing I	3
Literature elective	3
Science—biology, zoology, physical world, or chemistry	9-12
Approved business electives	9
Electives	12-20

Option B:

Home Economics in Business—is a special option which can be combined with any other area of home economics. Students are prepared for positions with newspapers, women's magazines, radio and television companies, commercial food and utility companies, department stores, and manufacturing companies.

Basic course requirements will include required courses in area of interest in home economics* plus the following:

H.Ec. 341—Demonstration Techniques	3
R-TV. 5—Introduction to Mass Communication	3
R-TV. 7—Broadcast Performance	3
R-TV. 106—Introduction to Radio Television	3
Jour. 231—Newspaper Reporting	5
Jour. 331—Contemporary Thought and Development	3
INCO 3—Public Speaking	4
INCO 212—Speech Composition and Contexts	3
Approved electives in journalism or radio-television*	6-9

*Approval from Chairman of the Department.

TEXTILES AND CLOTHING

Basic course requirements for all textiles and clothing majors.	
H.Ec. 10—Theory of Clothing Construction	2
H.Ec. 12—Principles of Clothing Construction	3
H.Ec. 15—Elementary Textiles	3
H.Ec. 190—Family Consumer Economics	3
H.Ec. 203—Intermediate Textiles	3
H.Ec. 208—Fashion Fundamentals	3
H.Ec. 303—Advanced Textiles	4
H.Ec. 308—Advanced Clothing Construction	4
H.Ec. 402—Flat Pattern Design	3
H.Ec. 405—History of Costume and Textiles	3
SA 101,102—Drawing and Design	6
CA 17,18,19 or 117,118,119—Introduction to Fine Arts	9
Chem. 10,11,12—General Chemistry, Chemical Analysis	12
Econ. 2 or 202—Principles	4
Mkt. 155—Advertising Principles	5
Mkt. 255—Basic Concepts of Marketing I	3
Approved electives in literature and/or language	3-8

Select one option for area of specialization

Option A:

Fashion Merchandising and Promotion—for positions as buyer, fashion coordinator or consultant in department stores and as traveling stylist for pattern, or fabric manufacturers, for promotional instruction and demonstration.	
H.Ec. 312—Fashion Merchandising	3
H.Ec. 480—Advanced Home Furnishings	3

Psyc. 162—Psychology of Advertising and Selling	3
Jour. 441—Magazine and Feature Writing	4
Approved electives in business	6-9
Approved electives in general education*	20
Electives	10-15

Option B:

Textile Testing and Consumer Services—for positions in testing laboratories of large chain companies or fabric manufacturers and for promotional instruction in laundry, equipment, and soap or detergent companies.	
H.Ec. 341—Demonstration Techniques	3
H.Ec. 391—Household Equipment	3
H.Ec. 492—Household Equipment Techniques	3
SA 248—Silk Screen Printing	3
Approved electives in science	10-12
Approved electives in general education	10-12
Electives	18-20

Option C:

Dress Design—for the position of dress designer and other technical or managerial positions in clothing manufacture.

SA 103—Drawing and Design	3
SA 228—Figure Drawing	3
SA 248—Silk Screen Printing	3
Psyc. 162—Psychology of Advertising and Selling	3
Approved electives in art and/or business*	10-15
Approved electives in general education*	20
Electives	8-15

*Approval from Chairman of the Department.

THE COLLEGE OF ENGINEERING AND TECHNOLOGY

*R. L. Savage, Dean
Irvin P. Badger, Assistant Dean*

VISITING COMMITTEE

Paul Stocker, Chairman
President of Lorain Products, Inc.

A. B. Clarke
Vice President
Standard Oil Company (Ohio)

Frank C. Croxton
Technical Director
Battelle Memorial Institute

Gordon Herrold, '24
Vice President
Anchor Hocking Glass Corporation
George H. Pringle
President
The Mead Corporation
Richard L. Shetler, '43
General Manager
Defense Program Division
General Electric Company

DEGREES AND REQUIREMENTS

The College of Engineering and Technology offers curricula leading to the Bachelor of Science degree in the fields of engineering and industrial technology.

Candidates for degrees in the College of Engineering and Technology must complete the general University requirements and the curriculum requirements of their particular fields. In addition to those courses which may be necessary to satisfy high school deficiencies, they must have a minimum of 192 quarter hours excluding the physical education requirements. Courses taken to remove high school deficiencies in the humanities and social sciences may not be used to satisfy the college requirements in these fields. The student should refer to the University College section of this catalog.

ENGINEERING

Engineering curricula accredited by the Engineers' Council for Professional Development are offered in Chemical Engineering, Civil Engineering, Electrical Engineering, and Mechanical Engineering. A curriculum in Industrial and Systems Engineering has been formulated and presented to the Curriculum Council of the University. It is assumed that this curriculum will be approved and accredited within a minimum period of time. The proposed curriculum has been included in the programs which follow.

To complete an engineering program in four years, a student must be well-prepared, including four years of high school mathematics and a good foundation in English. A student with deficiencies will require more than four academic years to complete an engineering program.

Deficiencies may be corrected during summer session, or the student may wish to add one or more quarters. If the situation is recognized early, the student may profit considerably, since the extra time at the University would enable him to take valuable extra courses. The courses might

include ROTC, business administration courses, additional technical electives or general cultural courses.

With planning, a student may obtain a degree from the College of Arts and Sciences, the College of Business Administration, or the College of Fine Arts as well as a Bachelor of Science degree in an engineering field upon completion of 15 quarters in the University. (See "Degree, Second Bachelor's.")

Since a background in English, the humanities, and the social sciences is essential for an engineer who hopes to advance in his profession, the faculty requires that all candidates for an engineering degree must have completed at least 24 hours of credit in the humanities-social sciences (including English literature courses). The student is required to plan, in consultation with his adviser, a program in these fields which will be most helpful to him. Engineers are frequently chosen for management; hence, it is to the student's advantage to secure the broadest possible education.

ADMISSION TO AN ENGINEERING PROGRAM

High school students who wish to follow an engineering curriculum should plan to present for admission to the University those subjects which meet the area requirements of the University College, including the additional mathematics listed under "Subjects in High School" in the admissions section of the catalog. High school students are warned that if they have not completed mathematics and other minimum entrance requirements, they should enter the University in June and take preparatory work during the summer session. This will prevent scheduling difficulties, and enable them to complete the program in the normal period. A student should indicate his choice of an engineering curriculum on his official application for admission to the University. This precaution will assure proper guidance in the University College program of study.

To be admitted to an engineering program from the University College, a student must at the time of admission to the engi-

neering program have (1) satisfactorily completed Math. 63B—Analytic Geometry and Calculus, and (2) satisfied all University College requirements.

Students who are not properly prepared in high school mathematics must enroll in preparatory mathematics courses. No mathematics course below Math. 63A—Analytic Geometry and Calculus, or its equivalent, is counted toward satisfying the requirements of a degree in engineering.

A student whose point-hour is less than 2.0 (C) for the freshman year, or who receives a grade lower than "C" in Math. 63B is admitted to an engineering program on warning.

Every engineering student should be prepared, after completion of his four-year program, to pass the examination given by the Board of Registration for Professional Engineers of the state in which he intends to practice. The Ohio Board allows those who have completed the standard four-year curriculum to appear for examination. It is to the student's advantage to take the examination during the spring or fall quarter closest to the expected time of graduation or as soon as possible after graduation.

REQUIREMENTS FOR CONTINUING IN AN ENGINEERING PROGRAM

A student who has been admitted to an engineering program with a cumulative point-hour ratio of less than 2.0 (C) must remove the grade-point deficiency by the end of the third quarter in the engineering program. A grade-point deficiency in engineering subjects will not be permitted after three quarters in an engineering program. Failure to meet these requirements may result in a student being dropped from the engineering program by special action.

CURRICULA IN ENGINEERING

The faculty has established basic curricula in Civil Engineering, Chemical Engineering, Electrical Engineering, Mechanical Engineering, and Industrial and Systems Engineering.

University College requirements, pertaining to English composition, physical

education, the humanities, social sciences, and speech, which are outlined in the University College section of the catalog, must be met to satisfy any engineering curriculum.

HUMANITIES-SOCIAL SCIENCE ELECTIVES

A minimum of 24 quarter hours of study in the fields of social science and humanities is required of all students seeking degrees in the College of Engineering and Technology. Individual departments may require additional credit hours. A student is required to determine his requirement in these areas by checking with his adviser in a specific department. Acceptable areas of study in these fields will be indicated to him in consultation with his adviser.

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

Chemical engineers apply the principles of science, mathematics, and economics to the development, design, and operation of equipment and plants for the chemical industry. Accordingly, this program is planned so that its graduates are familiar with the techniques used in analyzing and solving engineering problems associated with this and related industry (petroleum, metallurgical, plastics, etc.). In addition, the program provides an excellent background for graduate study in engineering, science, or business administration.

Initially, study in chemistry, mathematics, physics, and communication skills is emphasized. Gradually, courses in engineering fundamentals are introduced, followed by intensive work in engineering analysis and design. In this latter phase, emphasis is placed upon the application of principles from many fields of study to the solving of engineering problems. Here, computer solutions, process control theory, economics, and similar topics, are stressed.

Electives permit the student to pursue his interest in humanities, social sciences, and technical areas as he plans for his future in research, design, production, management or technical sales.

FRESHMAN

FIRST QUARTER

English 70—Composition	3
Math. 63A—Analytic Geometry and Calculus	5
Chem. 10—General Chemistry	4
Humanities or Social Science	3
P.E.	1

SECOND QUARTER

English 80—Composition	3
Math. 63B—Analytic Geometry and Calculus	5
E.G. 1—Engineering Graphics I	3
Chem. 11—General Chemistry	4
P.E.	1

THIRD QUARTER

INCO I—Freshman Speech	3
Math. 63C—Analytic Geometry and Calculus	3
E.G. 2—Engineering Graphics II	3
Chem. 12—General Chemistry	4
Humanities or Social Science	3
P.E.	1

SOPHOMORE

FIRST QUARTER

ChE 200—Introduction to Chemical Engineering	4
Physics 113—General Physics	5
CE 220—Statics	4
Math. 163A—Analytic Geometry and Calculus	3

SECOND QUARTER

Physics 114—General Physics	5
Chem. 226—Quantitative Analysis	5
Math. 163B—Analytic Geometry and Calculus	3
Humanity or Social Science	3

THIRD QUARTER

Physics 115—General Physics	5
ChE 344—Unit Operations III	3
Math. 240—Advanced Applied Mathematics	5
Humanities or Social Science	3

JUNIOR

FIRST QUARTER

ChE 342—Unit Operations I	3
ChE 302—Thermo-Kinetics I	3
Chem. 353—Physical Chemistry	3
EE 210—Basic Electrical Engineering I	3
Humanities or Social Science	3

SECOND QUARTER

ChE 343—Unit Operations II	3
ChE 303—Thermo-Kinetics II	3
ChE 413—Chemical Engineering Laboratory I—Digital	1
Chem. 354—Physical Chemistry	3

EE 211—Basic Electrical Engineering II	3
Humanities or Social Science	3

THIRD QUARTER

ChE 442—Process Control	3
ChE 304—Thermo-Kinetics III	3
ChE 414—Chemical Engineering Laboratory II—Analog	1

Chem. 225—Physical Chemistry	3
ChE 331—Principles of Engineering Materials	4
EE 201—Introductory Electrical Engineering Laboratory	1
Chem. 356—Physical Chemistry Laboratory	2

SENIOR

FIRST QUARTER

ChE 443—Design	3
ChE 415—Chemical Engineering Laboratory	2
III	2
Chem. 205—Organic Chemistry	3
CE 222—Mechanics of Materials	4
CE 223—Materials Laboratory	1
General Elective	3

SECOND QUARTER

ChE 444—Design	3
ChE 415—Chemical Engineering Laboratory	2
IV	2
Chem. 206—Organic Chemistry	3
Humanities or Social Science	3
Chem. 203—Organic Chemistry Laboratory	1
ChE Elective	3
ChE 418—Materials Laboratory	1
ChE 480—Colloquium	1

THIRD QUARTER

ChE 417—Chemical Engineering Laboratory	2
V—Process Control	3
ChE Elective	3
Chem. 207—Organic Chemistry	3
ChE Elective	3
General Elective	3
Humanities or Social Science	3

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

The Civil Engineering curriculum is designed to give a broad understanding of the basic sciences and of civil engineering principles and practice in the areas of (1) behavior of engineering materials, including fluids and soils, (2) design and construction of highways and other transportation facilities, including traffic control, (3) design and construction of structures of all types, and (4) environmental sanitation with particular emphasis on water supply and waste-water disposal.

FRESHMAN

FIRST QUARTER

E.G. 1—Engineering Graphics I	3
Math. 63A—Analytic Geometry and Calculus	5
English 70—Composition	3
Chem. 10—General Chemistry	4
P.E.	1

SECOND QUARTER

E.G. 2—Engineering Graphics II	3
Math. 63B—Analytic Geometry and Calculus	5
English 80—Composition	3
Chem. 11—General Chemistry	4
P.E.	1

THIRD QUARTER

E.G. 21—Descriptive Geometry	3
Math. 63C—Analytic Geometry and Calculus	3
INCO 1—Freshman Speech	3
Chem. 12—General Chemistry	4
P.E.	1
Elective	3

SOPHOMORE**FIRST QUARTER**

CE 110—Surveying	4
Math. 163A—Analytic Geometry and Calculus	3
Physics 113—General Physics	5
ChE 331—Principles of Engineering Materials	4

SECOND QUARTER

CE 220—Statics	4
Math. 163B—Analytic Geometry and Calculus	3
Physics 114—General Physics	5
Comp. Sci. 153—Computer Science	3

THIRD QUARTER

CE 222—Mechanics of Materials	4
CE 223—Materials Laboratory	1
Physics 115—General Physics	5
CE 321—Dynamics	4
Elective	3

JUNIOR**FIRST QUARTER**

CE 340—Fluid Mechanics	5
CE 341—Fluid Mechanics Laboratory	1
Geol. 103—Geology for Engineers	5
Math. 240—Advanced Applied Mathematics	5

SECOND QUARTER

CE 311—Route Engineering	4
CE 370—Soil Engineering	4
CE 330—Structural Theory I	4
ME 321—Thermodynamics	3

THIRD QUARTER

CE 342—Applied Hydraulics	3
CE 343—Hydrology	3
CE 361—Transportation Engineering	5
CE 331—Structural Theory II	4
Elective	3

SENIOR**FIRST QUARTER**

CE 450—Water Treatment	3
CE 432—Concrete Design	4
EE 210—Basic Electrical Engineering I	3
EE 201—Introductory Electrical Engineering Laboratory	1
Electives	6

SECOND QUARTER

CE 451—Waste Water Treatment	3
CE 433—Steel Design	4
EE 211—Basic Electrical Engineering II	3
EE 202—Introductory Electrical Engineering Laboratory	1
Electives	6

THIRD QUARTER

Electives	15
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BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Electrical Engineering is an extremely diversified field of science and technology. The curriculum in Electrical Engineering reflects this with the inclusion of a strong base of science and mathematics as well as general courses in fundamental aspects of electrical engineering. Following these foundation elements, a wide choice of electives in both engineering and science allows preparation for a certain specific area of practice. Alternatively, this elective choice facilitates preparation for further study to the M.S. or Ph.D. level in electrical engineering.

FRESHMAN**FIRST QUARTER**

Math. 63A—Analytic Geometry and Calculus	5
Chem. 10—General Chemistry	4
P.E.	1
English 70—Composition	3
Social science or humanity elective	3

SECOND QUARTER

Math. 63B—Analytic Geometry and Calculus	5
Chem. 11—General Chemistry	4
P.E.	1
English 80—Composition	3
E.G. 1—Engineering Graphics I	3

THIRD QUARTER

Math. 63C—Analytic Geometry and Calculus	3
Chem. 12—General Chemistry	4
P.E.	1
INCO 1—Freshman Speech	3
E.G. 2—Engineering Graphics II	3
Social science or humanity elective	3

SOPHOMORE**FIRST QUARTER**

EE 210—Basic Electrical Engineering I	3
EE 201—Introductory Electrical Engineering Laboratory I	1
Phys. 113—General Physics	5
Math. 163A—Analytic Geometry and Calculus	3
Social science or humanity elective	3

SECOND QUARTER

EE 211—Basic Electrical Engineering II	3
EE 202—Introductory Electrical Engineering Laboratory II	1
Phys. 114—General Physics	5
Math. 163B—Analytic Geometry and Calculus	3
CE 220—Statics	4

THIRD QUARTER

EE 212—Basic Electrical Engineering III	3
EE 203—Introductory Electrical Engineering Laboratory III	1
Phys. 115—General Physics	5
Math. 240—Advanced Applied Mathematics	5
Social science or humanity elective	3

JUNIOR**FIRST QUARTER**

EE 310—Linear Systems and Networks I	3
EE 340—Electrical Devices	3
EE 330—Energy Conversion I	3
EE 301—Intermediate Electrical Engineering	1
EE 320—Electro-Magnetics and Materials I	3

SECOND QUARTER

EE 311—Linear Systems and Networks II	3
EE 341—Electrical Circuits I	3
EE 331—Energy Conversion II	3
EE 321—Electro-Magnetics and Materials II	3
EE 301—Intermediate Electrical Engineering Laboratory II	1
CE 222—Mechanics of Materials	4

THIRD QUARTER

EE 312—Linear Systems and Networks III	3
EE 342—Electrical Circuits II	3
EE 332—Energy Conversion III	3
EE 322—Electro-Magnetics and Materials III	3
EE 303—Intermediate Electrical Engineering Laboratory III	2
Social science or humanity elective	3

SENIOR**FIRST QUARTER**

Technical electives	9
Social science or humanity elective	3
EE 401—Advanced Electrical Engineering Laboratory I	1
ME 321—Thermodynamics	3

SECOND QUARTER

Technical Electives	12
EE 402—Advanced Electrical Engineering Laboratory II	2

THIRD QUARTER

Technical Electives	9
Social science or humanity elective	6
EE 403—Advanced Electrical Engineering Laboratory III	2
Phys. 411 and Phys. 412 may be taken as a substitute for ME 321. Total quarter hour requirement is a minimum of 192 plus physical education.	

DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING

Industrial and Systems Engineering is concerned with the design and analysis of integrated systems of men, equipment, and materials. It draws upon knowledge from the mathematical, physical, and behavioral sciences which, in conjunction with the principles and methods of engineering analysis and design, is used to predict, to design, to control, and to evaluate the performance of complex systems. Although program emphasis is centered around industrial systems, effective consideration is also given to military, governmental and service systems.

Courses in the first two undergraduate years of the program are similar to the curricula of other engineering departments, and provide the necessary foundation in basic subjects upon which advanced, professional engineering work depends. The last two years provide instruction and training in professional level material essential to the performance of an industrial engineer.

FRESHMAN

FIRST QUARTER	
English 70—Composition	3
Math. 63A—Analytic Geometry and Calculus	5
Chem. 10—General Chemistry	4
E.G. 1—Engineering Graphics I	3
P.E.	1

SECOND QUARTER

INCO 1—Freshman Speech	3
Math. 63B—Analytic Geometry and Calculus	5
Chem. 11—General Chemistry	4
E.G. 2—Engineering Graphics II	3
P.E.	1

THIRD QUARTER

English 80—Composition	3
Math. 63C—Analytic Geometry and Calculus	3
Chem. 12—General Chemistry	4
E.G. 21—Descriptive Geometry	3
Humanity or social science elective*	3
P.E.	1

SOPHOMORE

FIRST QUARTER	
Phys. 113—General Physics	5
Math. 163A—Analytic Geometry and Calculus	3
CE 220—Statics	4
Ind. T. 17—Metalworking for Engineers	3
ISE 331—Introduction to Industrial and Systems Engineering	2

SECOND QUARTER

Phys. 114—General Physics	5
Math. 163B—Analytic Geometry and Calculus	3
CE 222—Mechanics of Materials	4
CE 223—Materials Laboratory	1
Humanity or social science elective*	3

THIRD QUARTER

Phys. 115—General Physics	5
Math. 240—Advanced Applied Mathematics	5
CE 321—Dynamics	4
Humanity or social science elective*	3

JUNIOR**FIRST QUARTER**

EE 210—Basic Electrical Engineering I	3
EE 201—Introductory Electrical Engineering Laboratory I	1
Math. 250A—Statistics	3
ME 301—Kinematics	3
ChE 331—Engineering Materials	4
CS 153—Computer Science	3

SECOND QUARTER

EE 211—Basic Electrical Engineering II	3
EE 202—Introductory Electrical Engineering Laboratory II	1
ISE 333—Work Design	5
ChE 418—Materials Laboratory	1
Acct. 111—Industrial Accounting	4
Humanity or social science elective*	3

THIRD QUARTER

ME 313—Metal Processing	3
ME 321—Thermodynamics	3
ME 322—Thermodynamics Laboratory	1
ISE 430—Engineering Economy	3
ISE 435—Quality Control and Reliability	3
Humanity or social science elective*	3

SENIOR**FIRST QUARTER**

ME 403—Machine Design	3
ISE 432—Inventory and Manufacturing Control	3
ISE 433—Industrial Computer Applications	3
Technical Elective**	3
Humanity or social science elective*	3

SECOND QUARTER

ISE 440—Plant Design I	3
ISE 441—Operations Research	3
ISE 434—Network Analysis	3
ISE 448—Man-Machine Systems	3
ME 480—Colloquium	1
Humanity or social science elective*	3

THIRD QUARTER

ISE 445—Plant Design II	3
Management Elective	3-6
Technical Electives**	6-3
Humanity or social science elective*	3

*In consultation with the adviser.

**A list of satisfactory electives is available from the Department Chairman.

MECHANICAL ENGINEERING

Mechanical Engineering emphasizes machine design and heat engineering. The work of the first two years is general and fundamental and parallels that in the other engineering curricula. The work of the last two years is comprehensive. It includes courses in theory development, and design of machines and mechanical equipment, and in thermodynamics and its application to steam generators, steam engines, and turbines, combustion engines, and refrigeration and air conditioning. To give a well-rounded curriculum, work is included in other fields of engineering, such as fluid mechanics and electrical engineering. Limited specialization is provided for by elective courses.

FRESHMAN**FIRST QUARTER**

Chem. 10—General Chemistry	4
E.G. 1—Engineering Graphics I	3
English 70—Composition	3
Math. 63A—Analytic Geometry and Calculus	5
P.E.	1

SECOND QUARTER

Chem. 11—General Chemistry	4
E.G. 2—Engineering Graphics II	3
English 80—Composition	3
Math. 63B—Analytic Geometry and Calculus	5
P.E.	1

THIRD QUARTER

Chem. 12—General Chemistry	4
E.G. 21—Descriptive Geometry	3
INCO—Freshman Speech	3
Math. 63C—Analytic Geometry and Calculus	3
Humanity or social science elective	3
P.E.	1

SOPHOMORE**FIRST QUARTER**

CE 220—Statics	4
Math. 163A—Analytic Geometry and Calculus	3
Phys. 113—General Physics	5
Ind. T. 17—Metalwork for Engineers	3

SECOND QUARTER

CE 321—Dynamics	4
Math. 163B—Analytic Geometry and Calculus	3
Econ. 201—Principles of Economics	4
ME 313—Metal Processing	3
History elective	3

THIRD QUARTER

Math. 240—Advanced Applied Mathematics	5
Phys. 114—General Physics	5
Humanity or social science elective	6

JUNIOR**FIRST QUARTER**

EE 210—Basic Electrical Engineering I	3
EE 201—Introductory Electrical Engineering Laboratory I	1
CE 222—Mechanics of Materials	4
CE 223—Materials Laboratory	1
Math. 441—Advanced Applied Mathematics	3
ME 321—Thermodynamics	3
ME 322—Thermodynamics Laboratory	1

SECOND QUARTER

EE 211—Basic Electrical Engineering II	3
EE 202—Introductory Electrical Engineering Laboratory II	1

ChE 331—Principles of Engineering Materials	4
ME 301—Kinematics	3
Humanities or Social Science elective	4
Technical elective	3

THIRD QUARTER

ME 323—Thermodynamics II	3
ME 324—Thermodynamics Laboratory II	1
Phys. 115—General Physics	5
ME 302—Dynamics	3
EE 460—Analog and Digital Computer Methods	3
ChE 418—Engineering Materials Laboratory	1

SENIOR**FIRST QUARTER**

CE 340—Fluid Mechanics	5
ME 403—Machine Design I	3
ME 412—Heat Transfer I	3
ME 423—Thermodynamics Analysis	3
ME 491—Mechanical Vibrations	3

SECOND QUARTER

ME 329—Heat Power Laboratory	3
ME 404—Mechanical Design	3
ME 413—Heat Transfer II	3
ME 424—Gas Dynamics I	3
ME 480—Colloquium	1
Technical Elective	3

THIRD QUARTER

ME 494—Advanced Machine Design	3
ME 425—Gas Dynamics II	3
Technical Elective	6
Humanity or social science elective	3
A list of satisfactory technical electives is available from the department chairman.	

BACHELOR OF SCIENCE IN INDUSTRIAL TECHNOLOGY

The purpose of this curriculum is to develop prospective industrial employees who will have a general knowledge of the operation and manufacturing processes of modern industry.

Some of the required courses are intended to develop an understanding of the economic and legislative controls within which industry operates; others deal with problems of the worker in his relationships with labor groups and management; and laboratory courses give practice with tools and machines for the development of technical knowledge and skill related to manufacturing and production.

FRESHMAN**FIRST QUARTER**

E.G. 1—Engineering Graphics I	3
English 70—Composition	3
Phys. 5—General Physics	4
Econ. 1—Principles of Economics	4
P.E.	1

SECOND QUARTER

E.G. 2—Engineering Graphics II	3
English 80—Composition	3
Phys. 6—General Physics	4
Econ. 2—Principles of Economics	4
P.E.	1

THIRD QUARTER

E.G. 15—Technical Drawing	3
INCO 1—Freshman Speech	3
Phys. 7—General Physics	4
Math. 6—Trigonometry	2
Ind. T. 15—Metal Fabrication	3
P.E.	1

SOPHOMORE**FIRST QUARTER**

Chem. 10—General Chemistry	4
Math. 60A (63A)—Analytic Geometry and Calculus	3
Psych. 1—General Psychology	3
Ind. T. 116—Metal Machining	3
E.G. 3—Slide Rule	1

SECOND QUARTER

Chem. 11—General Chemistry	4
Acct. 111—Industrial Accounting	4
Ind. T. 120—Small Engines	3
Ind. T. 132—Industrial Electricity	5

THIRD QUARTER

Chem. 12—General Chemistry	4
Quan. Meth. 170—Data Processing	3
Ind. T. 150—Wood Industry	3
Ind. T. 170—Technical Report Writing	1
Electives—Humanity or Social Science	4

JUNIOR**FIRST QUARTER**

Ind. T. 201—Ceramic Production	3
Ind. T. 233—Semi-Conductor Applications	3
Ind. T. 244—Graphic Processes	5
Mgt. 200—Management	4

SECOND QUARTER

Ind. T. 308—Plastics Forming	3
Ind. T. 310—Pattermaking and Foundry ..	3
Ind. T. 320—Hydraulic Controls	3
Mgt. 210—Production Management	3
Restricted electives*	3-5

THIRD QUARTER

Ind. T. 362—Product Design and Manufacturing	3
Ind. T. 390—Industrial Materials	3
Mgt. 340—Organizational Behavior	4
Restricted electives*	5-7

SENIOR**FIRST QUARTER**

Humanity elective	3
Restricted electives*	6-9
Unspecified electives	3-8

SECOND QUARTER

Humanity elective	3
Restricted electives*	6-9
Unspecified electives	3-8

THIRD QUARTER

Humanity elective	3
Restricted electives*	6-9
Unspecified electives	3-8

*Restricted electives totaling 35 credit hours are to be selected from approved business and technical courses.

TEACHING INDUSTRIAL ARTS

Students who desire to teach industrial arts normally enroll for the degree Bachelor of Science in Education. Requirements for this degree are listed in the College of Education section of this catalog.

A teaching option is provided under the Industrial Technology program where the certification requirements are met by substitution of other courses for the entire block of restricted electives. Students interested in this option should declare their intent during the first quarter of their junior year in order that exact requirements for them can be determined.

THE COLLEGE OF FINE ARTS

Jack Sherman Morrison, *Dean*
 Anthony Trisolini, *Associate Dean*
 Michael Hagen, *Assistant Dean*

The College of Fine Arts includes the School of Architecture and Design, the School of Art, the School of Music, the School of Communication, the School of Theater, and the Department of Comparative Arts. Offered is a broad, cultural education in the fine arts and special training in the following areas: Architecture, Advertising Design, Industrial Design, Interior Design; Art History, Art Education, Ceramics, Painting, Photography, Printmaking, Sculpture; Applied Music, Music Education, Music History and Literature, Music Theory and Composition, Music Therapy; General Speech, Speech Education, Communication in Organization, Radio-Television, Speech Pathology, Audiology and Speech Science; and Theater.

The degrees granted by the School of Architecture and Design are the Bachelor of Architecture upon completion of the prescribed curriculum in Architecture and the Bachelor of Fine Arts upon completion of one of the prescribed Design curricula. The degree Bachelor of Fine Arts is granted upon the completion of a program in the School of Art, the School of Music, the School of Communication, or the School of Theater.

Candidates for degrees in the College of Fine Arts complete the general graduation requirements of the University. Candidates for the Bachelor of Fine Arts degree must complete a minimum of 180 quarter hours, and for the Bachelor of Architecture degree, a minimum of 260 quarter hours, with

a point hour ratio of 2.0 (C) or better on all hours attempted, but including only the final hours and points in repeated courses. Candidates for the Bachelor of Fine Arts degree must have a point-hour ratio of 2.0 or better on all hours in the field of specialization. Candidates for the Bachelor of Architecture degree must have a 2.0 or better in each course in Architecture. For a student with transferred credit, this rule applies to his cumulative record, which includes transferred credits, and to his Ohio University record, exclusive of transferred credits. These requirements include the program of the University College.

The work of each student in the College of Fine Arts and its various schools will be reviewed no less than once a year by his faculty. After each review, the student will be notified of the faculty's assessment of his progress and use of his talent. The notice will be commendation, warning, or denial of further registration as a degree candidate in his School. In the event of denial, he is still free, subject to University regulations, to apply for transfer to another academic division of the University, and he may, subject to the regulations of that division continue to register for course work in the College of Fine Arts on an elective basis.

Further, a student with outstanding qualifications may request from his advisor consideration for acceleration beyond regular requirements.

BACHELOR OF FINE ARTS

The Bachelor of Fine Arts degree fulfills four functions: to provide the student with specialized training in one of the Fine Arts; to provide a firm foundation for professional achievement; to provide a cultural background through a study of the relationship of all the arts; and to prepare the student, as far as possible, to become a responsible member of society. To these ends, the programs have been kept flexible to meet individual needs.

Those who are planning to teach in Ohio should fulfill the minimum requirements established for certification. Please refer to those portions of the catalogue which describe the requirements for each area.

THE SCHOOL OF ARCHITECTURE AND DESIGN

J. Ingraham Clark, *Director*

Basic and specialized courses in four areas of study: Advertising Design, Architecture, Industrial Design and Interior Design. The curriculum in Architecture leads to the degree of Bachelor of Architecture, while the degree of Bachelor of Fine Arts is given in the other areas.

ADVERTISING DESIGN

The curriculum in Advertising Design is carefully arranged to give a suitable balance of theories, backgrounds, sources, and skills to students who plan to enter any of the diversified branches of the profession: magazine, newspaper, direct mail, packaging, display, television. The program is organized to investigate and experience the broadest characteristics of the methods of communication. The curriculum emphasizes graphic communication through drawing, painting, printmaking, photography, illustration, and typography. Courses in marketing, advertising, production, printing, and psychology support the studio sequence.

The studio subjects consist of drawing, painting, and design; advertising production, illustration, lettering, and typography. The student will also study copywriting, market research, and other important phases of the advertising profession. Courses in the humanities, such as literature, history of design, and psychology complete the program. This well-rounded advertising design program prepares the student for a career in a profession where his artistic, creative and intellectual abilities can be used to their utmost.

Freshman

C.A. 17 ... 3	C.A. 18 ... 3	C.A. 19 ... 3
English 3	English 3	INCO 1 ... 3
Art 1 3	Art 2 3	Art 3 3
Art 21 2	Art 22 2	Art 23 2
P.E. 1	P.E. 1	P.E. 1
U.C. Req. . 3	U.C. Req. . 3	U.C. Req. . 3
Des. 51 ... 1	Des. 52 ... 1	Des. 53 1
—	—	—
16	16	16

Sophomore

C.A. 121 ... 3	C.A. 122 ... 3	C.A. 123 ... 3
English 3	English 3	English 3
Art 128 ... 3	Art 129 ... 3	Des. 234 ... 3
Des. 233 ... 3	Jour. 250 .. 5	Jour. 221 .. 5
Art 101 ... 3	Des. 142 .. 2	Des. 143 .. 2
Des. 141 ... 2	—	—
—	16	16
17		

Junior

Arch. 471 .. 3	Arch. 472 .. 3	Arch. 473 .. 3
Des. 331 ... 4	Des. 332 ... 4	Des. 333 ... 4
Des. 224 ... 3	Photo. 133 .. 3	Photo. 134 .. 3
Elec. 6	Elec. 6	Jour. 422 .. 3
—	—	—
16	16	16

Senior

Des. 431 ... 3	Des. 432 ... 3	Des. 433 ... 3
Des. 434 ... 3	Des. 435 ... 3	Des. 436 ... 3
Art 427 ... 3	Art 428 ... 3	Art 429 ... 3
Jour. 450 .. 3	Elec. 8	Jour. 421 .. 3
Elec. 4	—	—
—	17	—
16		16

ARCHITECTURE

The curriculum in Architecture, leading to the degree of Bachelor of Architecture, is a three-year program following two years of pre-professional work. The pre-professional program includes lower division courses which provide acquaintance with the more elementary aspects of architecture; these courses are organized to insure continuity with the professional work begun in the third year.

Because the upper division program is planned as continuous with the basic courses offered during the first two years, students intending to study architecture at Ohio University are strongly advised to enter the University as freshmen, in order to profit by this continuous training. In special cases, however, students transferring from other in-

stitutions, with pre-professional preparation differing in some respects from the pattern indicated above, may be admitted to the upper division, professional curriculum.

The School is a member of the Association of Collegiate Schools of Architecture and the curriculum has received accreditation by the National Architectural Accrediting Board, in a minimum five-year sequence. The Board is sponsored and governed jointly by the American Institute of Architects, the National Council of Architectural Registration Boards, and the Association of Collegiate Schools of Architecture. The curriculum provides training in the essential skills and professional competence supported by study of the liberal arts, social sciences and related arts.

Entering freshmen intending to study architecture will be required to take the Architectural School Aptitude Test administered at various test centers throughout the United States by the Educational Testing Service of Princeton, New Jersey. The Architectural School Aptitude Test is sponsored by the Association of Collegiate Schools of Architecture for use by most architectural schools in the selection of students. It also serves to aid the student in recognizing his talents and needs while organizing his course of study. A satisfactory score will be required of all students who apply for the upper division degree program in architecture.

At the end of the sophomore year the Director and faculty of the School of Architecture will select a number who will be admitted to the upper division (third, fourth, and fifth years) of the School of Architecture as candidates for the professional architectural degree, Bachelor of Architecture.

The course of study in the lower division (freshman and sophomore years) serves also as a basis for the four-year professional curricula in other fields of design offered in the School of Architecture and Design.

Students are urged to acquire practical experience in offices of architects or on construction projects during vacation period before graduation.

The degree Bachelor of Architecture is the professional degree recognized by the

state registration boards for admission to the licensing examinations after suitable experience in architect's offices for the period required by the state law. The course prepares the assistant in this practical training period.

OWNERSHIP OF STUDENT WORK

Work done in fulfillment of class requirements becomes the property of the School. This work is used to provide accrediting agencies with tangible evidence of performance, to serve as exhibits for study by students and the general public.

ATTENDANCE

Successful work in the School of Architecture and Design is dependent upon regular participation in class work. Accumulation of unexcused absences equivalent to one week of classes is cause for failure in the course.

Unless specific exception has been approved, the student is expected to work in the studio during all scheduled times of design courses and during the additional hours necessary for the accomplishment of creditable work.

The School reserves the right to reject any design work done outside the studios.

RETENTION AND ADVANCEMENT

A minimum grade of C is required for the student's advancement from one design course to the next. The School reserves the right to refuse advancement to the student regardless of grades, if, in the opinion of the faculty, the student does not exhibit sufficient motivation.

FIVE YEAR PROFESSIONAL PROGRAM:

LOWER DIVISION:

Freshman

	Fall	Wntr	Spg
Des. 51, 52, 53: Introduction to Architecture and Design	1	1	1
Des. 101, 102, 103: Fundamentals of perception and Design	4	4	4
Des. 141, 142, 143: Design Communication	2	2	2
Math. 63 Analytic Geometry and Calculus	5		
Phys. 5 Introduction		4	
Eng. 70, 80 Composition		3	3
INCO 1			3

Electives, Fine Arts or Distribution requirements	5	3	4
	17	17	17

Sophomore

Design 201, 202, 203: Elementary Environmental Design	4	4	4
Design 241, 242, 243: Design Communication	2	2	2
Design 251, 252, 253: History of Environmental Design	3	3	3
Design 261: Environmental Construction methods	3		
Design 262, 263: Mechanical and Electrical Equipment		3	3
Design 281, 282, 283: the Environmental Design Professions	0	0	0
P.E.	1	1	1
Electives, Fine Arts or Distribution Requirements	4	4	4
	17	17	17

UPPER DIVISION:

Junior			
Arch. 301, 302, 303: Architectural Design	6	6	6
Arch. 384, 385: Research and Programming	2	2	
Arch. 386 Design Cybernetics			
Arch. 361, 362, 363: Statics and Strength of Materials	3	3	3
Electives and/or Fine Arts Requirements	6	6	6
	17	17	17

Senior

Arch. 401, 402, 403: Architectural Design	6	6	6
Arch. 461, 462, 463: Structural Design	3	3	4
Arch. 471, 472, 473: Planning and Urban Environment	3	3	3
Arch. 481, 482, 483: The Environmental Design Profession	0	0	0
Electives	5	5	5
	17	17	18

Fifth Year

Arch. 501, 502: Advanced Design (Architectural)	5	5	
Arch. 509: Architectural Design Thesis			
Arch. 554, 555: Ideas in Architecture		3	3
Arch. 561: Advanced Structures	3		
Arch. 581, 582, 583: The Environmental Design Profession	1	1	
Arch. 584: Seminar in Professional Practice		3	
Electives:	8	5	6
	17	17	17

INDUSTRIAL DESIGN

The Industrial Design curriculum encompasses a series of coordinated design courses which develop the student's design sense and creative potential by continually sharpening and broadening his thought processes. Through a program of directed electives, each student is encouraged to supplement his major design instruction with concentrated study in the related fields of design, business, marketing, and management, in order that he be prepared to assume future executive responsibilities. He should have the ability to communicate verbally as well as visually.

Industrial design relates machine-produced objects to man and the professional industrial designer works as a leading team member on the development of almost any object for everyday use. He studies the total impact of a probable object on its user, and creates from this viewpoint a useful object which improves the human environment.

Industrial Design is thus an integrating activity in which different abstract data and points of view from technology, art, science, and humanities are transformed and physically embodied into the form, structure, and functions of a mass-produced object for practical and esthetic use.

The four year curriculum leads to a Bachelor of Fine Arts degree and graduates will qualify for positions in industrial design offices, in various industries, or as independent design consultants.

Freshman

F.A. 17 ... 3	F.A. 18 ... 3	F.A. 19 ... 3
English 3	English 3	INCO 1 ... 3
P.E. 1	P.E. 1	P.E. 1
U.C. Req. . 3	U.C. Req. . 3	U.C. Req. . 3
Des. 51 ... 1	Des. 52 ... 1	Des. 53 ... 1
Des. 1 4	Des. 2 4	Des. 3 4
Des. 41 ... 2	Des. 42 ... 2	Des. 43 ... 2
<hr/>		
17	17	17

Sophomore

Arch. 151 . 3	Arch. 152 . 3	Arch 153 .. 3
Des. 241 .. 2	Des. 242 .. 2	Des. 243 .. 2
Des. 201 .. 4	Des. 222 .. 3	Des. 223 .. 3
Dir. Elec. .. 6	Dir. elec. .. 6	Dir. elec. .. 6
Art 233 ... 3	Art 234 ... 3	

15

17

17

Junior

Des. 321 ... 4	Des. 322 ... 4	Des. 323 ... 4
Des. 324 ... 3	Des. 325 ... 3	Des. 326 ... 3
Arch. 471 .. 3	Arch. 472 .. 3	Arch. 473 .. 3
Des. 331 .. 3	Des. 314 .. 3	Dir. elec. .. 7
Dir. elec. .. 4	Dir. elec. .. 4	
<hr/>		
18	17	17

Senior

Des. 421 ... 4	Des. 422 ... 4	Des. 423 ... 4
Des. 424 ... 3	Des. 425 ... 3	Des. 426 ... 3
Dir. elec. .. 8	Dir. elec. .. 8	Dir. elec. .. 8
<hr/>		
15	15	15

INTERIOR DESIGN

The curriculum in Interior Design seeks to prepare the student to take his place as a professional specialist in the design of interior space and is approached through the study of basic architecture. As such, the interior designer expects to assume a responsible role among those who shape physical environment. His primary interest in the development of interiors is concerned with the social, historical and technical implications of those aspects of space, surface and material which distinguish his work. His training will enable him to develop a practice as a private consultant, as a designer of furniture, textiles, and as a valuable associate of the environmental design team.

The Interior Design Department supplies an environment in which the student can work closely with students in the associated design fields: architecture, industrial design, and advertising design. The program includes those subjects which will best prepare the student for his career. During the third and fourth years, the interior design student specializes in courses that qualify him for work as a professional interior designer, capable of functioning in the commercial, residential, and furniture design fields.

Freshman

C.A. 17 ... 3	C.A. 18 ... 3	C.A. 19 ... 3
Eng. 3	Eng. 3	INCO 1 ... 3
P.E. 1	P.E. 1	P.E. 1
U.C. Req. . 3	U.C. Req. . 3	U.C. Req. . 3
Des. 51 ... 1	Des. 52 ... 1	Des. 53 ... 1
Des. 1 4	Des. 2 4	Des. 3 4
Des. 41 ... 3	Des. 42 ... 3	Des. 43 ... 3
<hr/>		
15	17	18

Sophomore		
Eng. 3	Eng. 3	Eng. 3
Des. 281 ... 0	Des. 282 ... 0	Des. 283 ... 0
Des. 201 ... 4	Des. 202 ... 4	Des. 203 ... 4
Des. 241 ... 2	Des. 242 ... 2	Des. 243 ... 2
Arch. 251 .. 3	Arch. 252 .. 3	Arch. 253 .. 3
Arch. 261 .. 3	Arch. 262 .. 3	Arch. 263 .. 3
—	—	—
15	15	15
Junior		
Des. 381 ... 0	Des. 382 ... 0	Des. 383 ... 0
Des. 311 ... 6	Des. 312 ... 6	Des. 313 ... 6
Des. 354 ... 3	Des. 314 ... 3	Des. 315 ... 3
Arch. 351 .. 3	Arch. 352 .. 3	Arch. 353 .. 3
Art 120 ... 3	Art 325 3	Photog. 121 .. 3
—	—	—
15	15	15
Senior		
Des. 481 ... 0	Des. 482 ... 0	Des. 483 ... 0
Des. 411 ... 6	Des. 412 ... 6	Des. 413 ... 6
Des. 483 ... 3	Des. 414 ... 3	Des. 415 ... 3
Electives ... 6	Electives ... 6	Electives ... 6
—	—	—
15	15	15

Note: It is the intent of the School of Architecture and Design to adopt a curriculum for architecture leading to a four-year sub-professional Bachelor's degree and two additional years leading to a professional degree at the Master's level. However, this program has not received final approval. If approved, the curriculum for the first four years will be essentially as described above.

THE SCHOOL OF ART

Frederick D. Leach, *Director*

The basic program in drawing and design is organized to familiarize students with various media and the techniques involved as well as with the need for developing, and imposing, a self-determined discipline toward the production of an esthetic form.

During the sophomore year, each student will have become familiar with fundamental problems involving the production of a meaningful form; he will also have completed a survey of the history of the fine arts. At this time he will, together with his adviser, determine for himself the course of study he will follow for the remaining two years. Thus the freshman and sophomore years constitute an extensive program and the junior and senior years a more intensive plan.

A division of the undergraduate degree program is based on the belief that the students, having been well grounded during the first two years of their college careers, are sufficiently mature to help direct their courses of study through their own areas of specialization.

The Bachelor of Fine Arts degree in the School of Art requires a minimum of 180 quarter hours. Included in this total are the University College requirements as well as six additional quarter hours of English, and a twenty-seven quarter hour minor. Comparative Arts 17, 18, 19 are assumed as comprising a portion of the University College requirement.

The B.F.A. degree is offered with majors in painting, sculpture, ceramics, photography, printmaking, art education with certification, and art history. Since degree programs are individually arranged, attention is called to major combinations including weaving, jewelry, glass blowing, and drawing.

STUDIO MAJORS

FRESHMAN

C.A. 17 3	C.A. 18 3	C.A. 19 3
Eng. 3	Eng. 3	Eng. 3
Art 101 3	Art 102 3	Art 103 3
Art 121 2	Art 122 2	Art 123 2
P.E. 1	P.E. 1	INCO 1
U.C. Req. ... 3	U.C. Req. ... 3	U.C. Req. ... 3
—	—	—
15	15	15

SOPHOMORE

C.A. 221 ... 3	C.A. 222 ... 3	C.A. 223 3
Eng. 3	Eng. 3	Eng. 3
Art 201 3	Art 205, 241,	Art 215 or
Art 228 3	244, or	231 3
Major 3	247 3	Major 3
—	Major 3	Elec. 3
15	Elec. 3	—
		15

JUNIOR

F.A. elec. ... 3	F.A. elec. ... 3	F.A. elec. ... 3
Major 3	Major 3	Major 3
Minor 3	Minor 3	Minor 3
Elec. 6	Elec. 6	Elec. 6
—	—	—
15	15	15

SENIOR

Major	6	Major	6	Major	6
Minor	3	Minor	3	Minor	3
Elec.	6	Elec.	6	Elec.	6
	<hr/> 15		<hr/> 15		<hr/> 15

Total quarter hours required: 180 (minimum)
 33 quarter hours in major
 18 quarter hours in minor
 45 quarter hours in elective (major, minor, related areas)
 27 quarter hours in F.A. courses.

ART HISTORY MAJORS**FRESHMAN**

C.A. 17	3	C.A. 18	3	C.A. 19	3
Eng.	3	Eng.	3	Eng.	3
U.C. Req.	3	U.C. Req.	3	U.C. Req.	3
P.E.	1	P.E.	1	INCO	1
Art 101	3	Art 102	3	Art 103	3
Art 121	2	Art 122	2	Art 123	2
	<hr/> 15		<hr/> 15		<hr/> 15

SOPHOMORE

C.A. 221 ...	3	C.A. 222 ...	3	C.A. 223 ...	3
Arch. 150 ...	3	Arch. 151 ...	3	Arch. 152 ...	3
Art 201	3	Art	3	Art	3
For. Lang. ...	4	For. Lang. ...	4	For. Lang. ...	4
Elec.	2	Elec.	2	Elec.	2
	<hr/> 15		<hr/> 15		<hr/> 15

JUNIOR

Major courses* ..	11	Major courses ..	11	Major courses ..	11
For. Lang. ...	4	For. Lang. ...	4	For. Lang. ...	4
	<hr/> 15		<hr/> 15		<hr/> 15

SENIOR

Major courses* ..	11	Major courses ..	11	Major courses ..	11
For. Lang. ...	4	For. Lang. ...	4	For. Lang. ...	4
	<hr/> 15		<hr/> 15		<hr/> 15

*Such courses may include studio work, or courses outside the College, where student, adviser, and program agree on need and ability.

PHOTOGRAPHY MAJORS

Candidates for the Bachelor of Fine Arts degree electing Photography as a field of concentration follow the regular sequence of photography courses during their freshman and sophomore years with advanced study in commercial and illustrative photography and portraiture.

In addition to a specialized understanding of photographic techniques and practices, a general education in contributing fields is desirable. The successful photographer must appreciate the ideas and interests of those with whom he deals.

A planned course of study should include courses in art history, design, and drawing for technical information contributing directly to the major interest. From the general educational field, courses in business administration, journalism, and the sciences should be chosen to fit individual needs.

Prospective photography majors should contact a staff member before registration and follow the program outline as closely as possible.

FRESHMAN

C.A. 17	3	C.A. 18	3	C.A. 19	3
U.G. Req.	7	U.C. Req.	7	U.C. Req.	7
Phot. 101 ...	3	Phot. 102 ...	3	Phot. 103 ...	3
S.A. 101	3	S.A. 102	3	S.A. 103	3
	<hr/> 16		<hr/> 16		<hr/> 16

SOPHOMORE

C.A. 221 ...	3	C.A. 222 ...	3	C.A. 223 ...	3
S.A. 201	3	S.A. Elec.	3	S.A. Elec.	3
Phot. 201 ...	3	Phot. 202 ...	3	Phot. 203 ...	3
Phot. 205 ...	3	Phot. 206 ...	3	Phot. 207 ...	3
Elec.	5	Elec.	5	Elec.	5

JUNIOR

Phot. 337 ...	3	Phot. 378 ...	3	Phot. 379 ...	3
F.A.	3	F.A.	3	F.A.	3
Phot. Elec. ...	3	Phot. Elec. ...	3	Phot. Elec. ...	3
Elec.	6	Elec.	6	Elec.	6

JUNIOR

Phot. 382 ...	3	Phot. 383 ...	3	Phot. 384 ...	3
Phot. Elec. ...	3	Phot. Elec. ...	3	Phot. Elec. ...	3
Elec.	9	Elec.	9	Elec.	9

SENIOR

Phot. 382 ...	3	Phot. 383 ...	3	Phot. 384 ...	3
Phot. Elec. ...	3	Phot. Elec. ...	3	Phot. Elec. ...	3
Elec.	9	Elec.	9	Elec.	9

15	<hr/> 15	15	<hr/> 15	15
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THE SCHOOL OF COMMUNICATION

Claude E. Kantner, *Director*

The curriculum of the School of Communication provides a General Speech major for those who wish a broad background

covering several areas, a major in Speech Education which includes certification for those who plan to teach in the secondary schools and more specialized majors in Organizational Communication, Radio-Television, and Speech Pathology, Audiology and Speech Science. The last named major also includes the requirements for certification in Speech and Hearing Therapy in Ohio.

The specific course requirements for each of these majors are listed below. In addition, all majors are required to demonstrate adequate mastery of basic voice and articulation skills in a speech proficiency test. A satisfactory rating on this test is required for graduation.

GENERAL SPEECH

(without certification)

UNIVERSITY COLLEGE REQUIREMENTS

1. English Composition (Eng. 70, 80)
2. Fundamentals of Speech (INCO 1) or Public Speaking (INCO 3)
3. Physical Education—three quarters
4. One year in each of two of the following four groups: humanities, mathematics, natural sciences, and social sciences.

MAJOR IN GENERAL SPEECH

(At least 18 of the major hours must be in courses numbered 400 or above.)

SPECIFIC REQUIREMENTS:

Lower Division

- INCO 7—Voice and Articulation
(unless waived) 2

- INCO 115—Argumentation and Debate 3

- INCO 205—Techniques of Group Discussion 4

Upper Division

- INCO 350—Introduction to Rhetorical Theory 3

ELECTIVES. One course from each of the following areas:

Public Address

Lower Division

- INCO 212—Speech Composition and Contexts 3

- INCO 253—History of Oratory—I 3

- INCO 254—History of Oratory—II 3

- INCO 255—History of Oratory—III 3

Upper Division

- INCO 433—Applications of General Semantics 3

- INCO 435—Theories of Argument 3

- INCO 442—Social Communication and Persuasion 3

- | | |
|---|---|
| INCO 458—Responsibilities and Freedom of Speech | 4 |
| INCO 460—Contemporary Public Address | 4 |

Radio-TV

Lower Division:

- R-TV 5—Introduction to Mass Communications 3

Upper Division:

- R-TV 370—Broadcasting and the Public 3

- R-TV 467—Comparative Systems of Broadcasting 3

Communications

Lower Division:

- INCO 234—Communications Process—I 3

- INCO 235—Communications Process—II 3

Upper Division:

- INCO 444—Communications Constructs and Systems 3

- INCO 446—Communications and the Campaign 3

- INCO 448—Psychology of Speech 3

Group Processes

Lower Division:

- INCO 204—Principles and Techniques of Interviewing 4

Upper Division:

- INCO 346—Communication in Organizations 3

- INCO 405—Principles of Conference Leadership 3

Theater Arts

Lower Division:

- ThAr 1—Introduction to the Theater 3

- ThAr 20—Oral Interpretation I 3

- ThAr 115—Principles of Acting 3

- ThAr 170—Theater History—I 3

- ThAr 171—Theater History—II 3

- ThAr 172—Theater History—III 3

Upper Division:

- ThAr 201—Play Production 4

ADDITIONAL COURSES (15 hours)

To be selected from interpersonal communication, radio-television, theater or speech pathology, audiology and speech science.

REQUIREMENTS OUTSIDE THE MAJOR. (24-40 hours)

Any courses in related fields may be taken with at least nine hours in one department.

GENERAL SPEECH

(Including certification requirements)

UNIVERSITY COLLEGE REQUIREMENTS

English 70 and 80

INCO 1 (Waived for general speech majors)
P.E.

One year in each of two of the following groups:
 Humanities
 Mathematics
 Natural Sciences*
 Social Sciences*

*Nine quarter hours required for teacher certification

MAJOR REQUIREMENTS

LOWER DIVISION COURSES

INCO 3—Public Speaking	4
INCO 7—Voice and Articulation	2
INCO 20—Oral Interpretation	3
INCO 115—Principles of Argumentation	3
INCO 205—Techniques of Group Discussion	3
INCO 234—Communication Process I	4
INCO 235—Communication Process II	4
INCO 236—Speech Correction for Classroom Teacher	3
INCO 17 or 317—Forensic Workshop	2
ThAr 30A—Production I: Scenery	2
ThAr 30B—Production II: Lighting	2
ThAr 30C—Production III: Costumng	2
ThAr 130A—Production IV: Scenery	2
ThAr 130B—Production V: Lighting	2
ThAr 130C—Production VI: Costumng	2
ThAr 37—Make-up	1
ThAr 115—Acting	3
ThAr 170—History of Theater	3
ThAr 171—History of Theater	3
ThAr 172—History of Theater	3

UPPER DIVISION COURSES

INCO 321—Methods of Teaching Speech and Theater I	3
INCO 322—Methods of Teaching Speech and Theater II	3
INCO 350—Introduction to Rhetorical Theory	4
INCO 425—Direction of Forensic Programs	3
ThAr 360—Directing I	3
ThAr 361—Directing II	3
R-TV 441—Instructional Methods in Educational R-TV	5
R-TV (Elective) Select one course from the following:	3
R-TV 310—Principles of TV Production	(3)
R-TV 370—Broadcasting and the Public	(3)
R-TV 340—Radio-TV in Education	(3)

CERTIFICATION REQUIREMENTS:

Psych. 1—General Psychology	3
Psych. 2—General Psychology	3
Psych. 175—Educational Psychology	4
Ed. 120—Secondary Education	3
Ed. 321—Principles of Teaching	3
Ed. 322—Introduction to Secondary Curriculum	3
Ed. 323—Instructional Methods and Practices	3
Ed. Pl. 463—Student Teaching	6
Ed. Pl. 464—Student Teaching	6
Ed. Pl. 465—Student Teaching Seminar	3

Ed. Pl. 260—Field Service in Education	2
or	
Ed. Pl. 360—Field Experience in Public Schools	2

Other certificate requirements:

Social Studies	9
Mathematics or Science	9
English	9
Fine arts, applied arts, religion, or philosophy	9
Electives in above	9

ORGANIZATIONAL COMMUNICATION

UNIVERSITY COLLEGE REQUIREMENTS

1. English Composition (Eng. 70, 80)
2. Fundamentals of Speech (INCO 1) or Public Speaking (INCO 3)
3. Physical Education (three quarters)
4. One year in each of two of the following four groups:
 humanities, mathematics, natural sciences, social sciences. If the student has no high school deficiencies to satisfy, it is recommended that he choose the humanities and the social sciences groups, plus the course prerequisite for Psych. 121.

MAJOR IN INTERPERSONAL/ORGANIZATIONAL COMMUNICATION

LOWER DIVISION COURSES

INCO 204—Principles and Techniques of Interviewing	4
INCO 205—Techniques of Group Discussion	4
INCO 210—Parliamentary Procedure	2
INCO 212—Speech Composition and Contexts	3
INCO 234—Communication Process I	4
INCO 235—Communication Process II	4

UPPER DIVISION COURSES

INCO 346—Communication in Organizations	3
INCO 350—Introduction to Rhetorical Theory	3
INCO 433—Applications of General Semantics	3
INCO 435—Theories of Argument	3
INCO 442—Social Communication and Persuasion	3
INCO 444—Communication Constructs and Systems	3
INCO 446—Communication and the Campaign	3
INCO 448—Psychology of Speech	3
INCO 458—Responsibilities and Freedom of Speech in Communication	4

REQUIREMENTS OUTSIDE THE MAJOR

Jour. 1—Introduction to Journalism	3
Math. 3—College Algebra (prerequisite for Psych 121)	3
Psych. 121—Elementary Statistics for the Behavioral Sciences	4
Bus. Comm. 120—Business Communications ..	3
English 231—Advanced Composition	3
Mgmt. 340—Organization Theory and Behavior	4
Radio-TV 370—Broadcasting and the Public ..	3
	—
	23

OTHER REQUIREMENTS

1. Either a foreign language requirement of 0-16 hours, depending on high school courses and demonstrated proficiency

or

Gen. Studies 228, and Educ. 381-382.
2. At least two minor areas (minimum of 21 hours in each) from the following five areas:
 - a. Behavioral Science
 - b. Fine Arts
 - c. Governmental and Political Science
 - d. Humanities
 - e. Interpersonal Relations

RADIO-TELEVISION**UNIVERSITY COLLEGE REQUIREMENTS**

1. English 70, 80
2. Fundamentals of Speech 1 (waived for majors)
3. P.E. (three quarters)
4. Specific sequences in following groups, as required:
 - a. Arts and Humanities (see below)
 - b. Social Science (see below)
 - c. Math, Physical and Natural Sciences (see below)

MAJOR IN RADIO-TELEVISION

(Minimum of 59 hours)

LOWER DIVISION

INCO 3—Public Speaking	4
R-TV 5—Intro. to Mass Communications	3
R-TV 7—Broadcast Performance	3
INCO 20—Oral Interpretation	3
R-TV 106—Intro. to Radio-Television ..	3
R-TV 108—Technical Basis of Radio-TV ..	3
R-TV 111—Elements of Radio Production ..	3
R-TV 116—Elements of Television Production	3

UPPER DIVISION

- One of the following:
- R-TV 212—Radio Production-
Direction (3)

R-TV 217—Television Production- Direction (3)	3
R-TV 230—Continuity Writing	3
INCO 234—Communication Process I	4
R-TV 370—Broadcasting and the Public ..	3
Two of the following:	
R-TV 450—Broadcast Economics (5)	
R-TV 451—Broadcast Station	5
Operation (5)	
R-TV 453—Broadcast Law and Regulations (5)	5
R-TV 455—Broadcast Programming (5)	
R-TV 479—History of Broadcasting	5
At least 3 hours from the following:	
INCO 115, 205, 235, 236, 246, 442	3
At least 3 hours from the following:	
Theater Arts 1, 30, 115, 201, 232	3
	—
	59

REQUIREMENTS OUTSIDE THE MAJOR

At least one multi-course sequence in each of the following three subdivisions must be included in the required number of hours.

ARTS AND HUMANITIES (40 hours, may include University College except English 70, 80.)

- Fine Arts
- Great Books
- Philosophy
- Foreign Language
- English

SOCIAL SCIENCES (30 hours, may include University College requirements)

- Psychology
- Sociology
- Economics—Marketing—Management
- Political Science—Government
- History

MATHEMATICS, PHYSICAL AND NATURAL SCIENCES (9 hours, may include University College requirements)

-

OTHER REQUIREMENTS

Typing Proficiency

**SPEECH PATHOLOGY, AUDIOLOGY
AND SPEECH SCIENCE**

(Including the requirements for certification in Speech and Hearing Therapy in the public schools of Ohio)

UNIVERSITY COLLEGE REQUIREMENTS

1. English 70, 80
2. Fundamentals of Speech 1 (waived for majors)
3. P.E. (three quarters)

One year in each of two of the following groups with Fine Arts 17, 18, 19 and a Natural Science (Zoology) recommended: humanities, natural science, social sciences, and mathematics.

MAJOR IN SPEECH PATHOLOGY, AUDIOLOGY AND SPEECH SCIENCE.

LOWER DIVISION

INCO 3—Public Speaking	3
SPSA 7—Voice and Articulation	2
INCO 20—Oral Interpretation or 115— Argumentation and Debate	3
SPSA 107—Introduction to Speech Disorders	3
SPSA 208—Phonetics I	3
SPSA 210—Language Development I	3
SPSA 213—Speech and Hearing Mechanisms I	3
SPSA 250—Speech Science	3
SPSA 270—Basic Audiology	3

UPPER DIVISION

SPSA 311—Language Development II	3
SPSA 314—Speech and Hearing Mechanisms II	3
SPSA 315—Stuttering I	3
SPSA 318—Disorders of Articulation	3
SPSA 319—Disorders of Voice	3
SPSA 351—Speech Science Laboratory Methods	3
SPSA 371—Auditory Rehabilitation	3
SPSA 416—Stuttering II	3
SPSA 422—Diagnostic Procedures in Speech Pathology	3
SPSA 434—Neuropathologies of Speech and Language	3
SPSA 435—Practicum in Diagnosis and Therapy	1
SPSA 472—Auditory Disorders in Children ..	3

CERTIFICATION REQUIREMENTS

GENERAL EDUCATION

Note: Courses taken in the University College may be counted in meeting these re- quirements.	
Science or Math (Zoology recommended) 9-12	
English literature	9
Humanities (F.A. 17, 18, 19 recommended) ..	9
Social studies (not including psychology) ..	9
Electives (to be chosen from, and in addition to, the above)	9

PSYCHOLOGY

Lower Division	
Psych. 1—General Psychology I	3
Psych. 2—General Psychology II	3
Psych. 173—Child and Adolescent Psychology	5
Psych. 175—Educational Psychology	4
Upper Division	
Psych. 131—Psychology of Adjustment	3
Psych. 375 or 575—Psychology of Exceptional Children	4

EDUCATION

Lower Division	
Ed. 125—Introduction to Purposes and Practices of Education	3
Upper Division	
Ed. 260 or 360—Field Experience	2
Ed. 321—Principles of Teaching and Learning in Secondary Schools ..	3
Ed. 322—Introduction to Secondary Curriculum	3
Ed. 323—Instructional Practices and Methods in Secondary Schools ..	3
Ed. 461, 462—Student Teaching in Elementary Schools	6
Ed. 463, 464—Student Teaching in Secondary Schools	6
Ed. 465—Student Teaching Seminar or SPSA 437—Student Teaching Seminar	3 or 2

THE SCHOOL OF MUSIC

Sherwood Hall, Acting Director

The curricula of the School of Music are designed to prepare the student for careers in music education, music therapy, performance, or teaching at the college level. The School of Music makes provision for individual study in all branches of vocal and instrumental music and offers a wide range of courses in the fields of Theory and Composition, Music History and Literature, Music Education, and Music Therapy. Opportunities are provided for individual participation in student recitals as well as for performing experience in the various choral organizations, orchestras, bands, and chamber music ensembles.

Students who specialize in music education may elect either an instrumental or a vocal emphasis. Upon completion of the requirements of the School of Music, which include the requirements of the State Board of Education, the student may be certified to teach in the State of Ohio.

Students in the College of Arts and Sciences may major in two areas—music history and literature or music theory. The director of the School of Music should be consulted as the adviser of the course.

Many recitals, lectures, and concerts are presented on the campus during the academic year. The music major is expected

to attend a majority of these events in accordance with the School of Music regulations.

Examinations in applied music are given at the end of each quarter by a faculty committee and must be taken by all music majors in accordance with degree and proficiency requirements as set up by the School of Music. A copy of these requirements may be secured at the office of the School of Music. Majors in applied music are required to present a junior and a senior recital.

The Ohio University School of Music is a member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this catalog are in accordance with the standards set up by the Association.

The following curricula contain the requirements for graduation in the College of Fine Arts.

MAJOR IN PIANO

(Four-Year Curriculum)

University College Requirements, 30 quarter hours

Major in Piano

Lower Division

Piano	15
Theory	27 (1-2-3; 201-202-203; 204-205-206)
History	9 (221-222-223)
Participation	6 (44)

Upper Division

Piano	24
Theory	18 (including 301-302-303-401)
Literature	9 (including 421b-c)
Participation	6 (444)

Piano Pedagogy .. 6 (352-353-354)

Requirements outside the Major

Fine Arts electives ..	9 (outside the School of Music)
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English elective 9

Other requirements	
electives	24

The following course plan outlines a practical sequence of courses which should be of assistance to the student in planning his course of study.

FRESHMAN

English	70	3
Comp. Arts	17	3
Theory	1	3
U.C. Req.		3
Piano		2
Participation	44	1
P.E.		1
Performance Lab.	90	0
		—
		16

English	80	3
Comp. Arts	18	3
Theory	2	3
U.C. Req.		3
Piano		2
Participation	44	1
P.E.		1
Performance Lab.	90	0
		—
		16

INCO	1	3
Comp. Arts	19	3
Theory	3	3
U.C. Req.		3
Piano		2
Participation	44	1
P.E.		1
Performance Lab.	90	0
		—
		16

SOPHOMORE

Harmony	201	3
S.S. and Dict.	204	3
Mus. History	221	3
Academic elective		3
Piano		3
Participation	44	1
Performance Lab.	90	0
		—
		16

Harmony	202	3
S.S. and Dict.	205	3
Mus. History	222	3
Academic elective		3
Piano		3
Participation	44	1
Performance Lab.	90	0
		—

		16
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Harmony 203	3	Literature of Mus. 421*	3
Form and Anal. 206	3	Piano Pedagogy 354	2
Mus. History 223	3	Piano	4
Academic elective	3	Music elective	3
Piano	3	Elective	3
Participation 444	1	Participation 444	1
Performance Lab. 90	0	Performance Lab. 90	0
	—		—
	16		16

TOTAL 192 hours

JUNIOR

Adv. Harm. 301	3
Fine Arts Minor	3
Counterpoint I 407	2
Piano	4
Keyboard Harm. 401	3
Participation 444	1
Performance Lab. 90	0
	—
	16

Adv. Harm. 302	3
Fine Arts Minor	3
Counterpoint II 408	2
Piano	4
Elective	3
Participation 444	1
Performance Lab. 90	0
	—
	16

SENIOR

Literature of Mus. 421*	3
Piano Pedagogy 352	2
Piano	4
Music elective	3
Elective	3
Participation 444	1
Performance Lab. 90	0
	—
	16

Literature of Mus. 421*	3
Piano Pedagogy 353	2
Piano	4
Music elective	3
Elective	3
Participation 444	1
Performance Lab. 90	0
	—
	16

*May be taken in Jr. or Sr. year and should include 421b and 421e.

MAJOR IN VOICE

(Four-Year Curriculum)

University College Requirements, 30 quarter hours

Major in Voice

Lower Division

Voice	15
Piano	6
Theory	27 (1-2-3; 201-202-203; 204-205-206)
History	9 (221-222-223)
Participation	6 (44)

Upper Division

Voice	24
Theory	9 (301-302-303)
Literature	9 (including 421a and 421f)
Music Electives	9
Participation	6 (444)

Requirements outside of the major

Fine Arts Electives	9 (outside the School of Music)
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Foreign Language

Other Requirements

Electives	15
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The following course plan outlines a practical sequence of courses which should be of assistance to the student in planning his course of study.

FRESHMAN

English 70	3
Comp. Arts 17	3
U.C. Req.	3
Theory 1	3

Voice	2
Piano or Class Piano	1
Participation 44	1
Performance Lab. 90	0
P.E.	1
	—
	17

English 80	3
Comp. Arts 18	3
U.C. Req.	3
Theory 2	3
Voice	2
Piano or Class Piano	1
Participation 44	1
Performance Lab. 90	0
P.E.	1
	—
	17

INCO 1	3
Comp. Arts 19	3
U.C. Req.	3
Theory 3	3
Voice	2
Piano or Class Piano	1
Participation 44	1
Performance Lab. 90	0
P.E.	1
	—
	17

SOPHOMORE

Harmony 201	3
S.S. and Dict. 204	3
Hist. of Mus. 221	3
Academic Elective	3
Voice	3
Piano or Class Piano	1
Participation 44	1
Performance Lab. 90	0
	—
	17

Harmony 202	3
S.S. and Dict. 205	3
Hist. of Mus. 222	3
Academic Elective	3
Voice	3
Piano or Class Piano	1
Participation 44	1
Performance Lab. 90	0
	—
	17

Harmony 203	3
Analysis and Form 206	3
Hist. of Mus. 223	3
Academic Elective	3
Voice	3
Piano or Class Piano	1
Participation 44	1
Performance Lab. 90	0
	—
	17

JUNIOR

Adv. Harm. 301	3
Foreign Language	4
Fine Arts minor	3
Voice	4
Elective	2
Participation 444	1
Performance Lab. 90	0
	—
	17

Adv. Harm. 302	3
Foreign Language	4
Fine Arts minor	3
Voice	4
Elective	2
Participation 444	1
Performance Lab. 90	0
	—
	17

Adv. Harm. 303	3
Foreign Language	4
Fine Arts minor	3
Voice	4
Elective	2
Participation 444	1
Performance Lab. 90	0
	—
	17

SENIOR

Foreign Language	4
Literature of Mus. 421*	3
Voice	4
Music Elective	3
Participation 444	1
Performance Lab. 90	0
	—
	15

Foreign Language	4
Literature of Mus. 421*	3
Voice	4
Music Elective	3
Participation 444	1
Performance Lab. 90	0
	—
	15

Foreign Language	4
Literature of Mus. 421*	3
Voice	4
Music Elective	3
Participation 444	1
Performance Lab. 90	0
	—
	15

Demonstration of piano proficiency is required.

TOTAL 198 hours

*May be taken in the Jr. or Sr. year and should include 421a and 421f

MAJOR IN ORCHESTRAL**INSTRUMENTS**

Strings, Woodwinds, Brass, or Percussion
(Four-Year Curriculum)

University College Requirements, 30 quarter hours

Major in Orchestral Instruments**Lower Division**

Major Instrument	15
Piano	6
Theory	27 (1-2-3; 201-202-203; 204-205-206)
History	9 (221-222-223)
Participation	6 (44)

Upper Division

Major Instrument	24
Theory	15 (including 301-302-303)
Literature	9 (including 421d)
Participation	6 (444)

Requirements outside of the major

Fine Arts Elective	9 (outside the School of Music)
English Elective	9

Other Requirements

Electives	34
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The following course plan outlines a practical sequence of courses which should be of assistance to the student in planning his course of study.

FRESHMAN

English 70	3
Comp. Arts 17	3
U.C. Req.	3
Theory 1	3
Applied Princ. Instru.	2
Piano	1
P.E.	1
Participation 44	1
Performance Lab. 90	0
	17

English 80	3
Comp. Arts 18	3
U.C. Req.	3
Theory 2	3
Applied Princ. Instru.	2

Piano	1
P.E.	1
Participation 44	1
Performance Lab. 90	0
	17

INCO 1	3
Comp. Arts 19	3
U.C. Req.	3
Theory 3	3
Applied Princ. Instru.	2
Piano	1
P.E.	1
Participation 44	1
Performance Lab. 90	0
	17

SOPHOMORE

Harmony 201	3
S.S. and Dict. 204	3
History of Mus. 221	3
English	3
Applied Princ. Instru.	3
Piano	1
Participation 44	1
Performance Lab. 90	0
	17

Harmony 202	3
S.S. and Dict. 205	3
Hist. of Mus. 222	3
English	3
Applied Princ. Instru.	3
Piano	1
Participation 44	1
Performance Lab. 90	0
	17

Harmony 203	3
Anal. and Form 206	3
Hist. of Mus. 223	3
English	3
Applied Princ. Instru.	3
Piano	1
Participation 44	1
Performance Lab. 90	0
	17

JUNIOR

Advanced Harm. 301	3
Fine Arts minor	3
Literature of Mus. 421*	3
Applied Princ. Instru.	4
Elective	2
Participation 444	1
Performance Lab. 90	0
	16

Adv. Harm. 302	3
Fine Arts minor	3
Literature of Mus. 421*	3
Applied Princ. Instru.	4
Elective	2
Participation 444	1
Performance Lab. 90	0
	—
	16

Adv. Harm. 303	3
Fine Arts minor	3
Literature of Mus. 421*	3
Applied Princ. Instru.	4
Elective	2
Participation 444	1
Performance Lab. 90	0
	—
	16

SENIOR

Applied Princ. Instru.	4
Counterpoint I 407	2
Music Elective**	2-3
Electives	6
Participation 444	1
Performance Lab. 90	0
	—
	15-16

Applied Princ. Instru.	4
Counterpoint II 408	2
Music Elective**	2-3
Electives	6
Participation 444	1
Performance Lab. 90	0
	—
	15-16

Applied Princ. Instru.	4
Counterpoint III 409	2
Music Elective**	2-3
Electives	6
Participation 444	1
Performance Lab. 90	0
	—
	15-16

Demonstration of piano proficiency is required.

TOTAL 198 hours

*May be taken in the Jr. or Sr. year and should include 421c and 421d.

**Suggested electives are composition, instrumentation, orchestration and conducting

Major in Organ**Lower Division**

Organ	12
Piano	3
Voice	3
Theory	27 (1-2-3; 201-202-203; 204-205-206)

History 9 (221-222-223)

Participation 6 (44)

Upper Division

Organ	24
Theory	9 (including 301-302-303)
Literature	9 (including 421e)
Participation	6 (444)
Conducting	6 (355-356)
Individual Projects	8 (498)

Requirements outside the major

Fine Arts Elective ... 9 (outside the School of Music)

Academic Elective ... 9

Other Requirements

Electives 30

The following course plan outlines a practical sequence of courses which should be of assistance to the student in planning his course of study.

FRESHMAN

English 70	3
Comp. Arts 17	3
U.C. Req.	3
Theory 1	3
Organ	2
Piano	1
Participation 44	1
P.E.	1
Performance Lab. 90	0
	—
	17

English 80	3
Comp. Arts 18	3
U.C. Req.	3
Theory 2	3
Organ	2
Piano	1

MAJOR IN ORGAN

(Four-Year Curriculum)

University College Requirements, 30 quarter hours

Participation 44	1	Advanced Harmony 302	3
P.E.	1	Fine Arts minor	3
Performance Lab. 90	0	Literature of Mus. 421*	3
—	—	Conducting 356	3
17		Organ	4
INCO 1	3	Participation 444	1
Comp. Arts 19	3	Performance Lab. 90	0
U.C. Req.	3	—	17
Theory 3	3	Advanced Harmony 303	3
Organ	2	Fine Arts minor	3
Piano	1	Literature of Mus. 421*	3
Participation 44	1	Elective**	3
P.E.	1	Organ	4
Performance Lab. 90	0	Participation 444	1
—	—	Performance Lab. 90	0
17		—	17

SOPHOMORE

Harmony 201	3	SENIOR	
S.S. and Dict. 204	3	Organ	4
Hist. of Mus. 221	3	Individual Proj. 498	4
Organ	2	Electives***	7
Voice or Class Voice	1	Participation 444	1
Academic Elective	3	Performance Lab. 90	0
Participation 44	1	—	16
Performance Lab. 90	0	Organ	4
—	—	Individual Proj. 498	4
16		Electives***	7
Harmony 202	3	Participation 444	1
S.S. and Dict. 205	3	Performance Lab. 90	0
Hist. of Mus. 222	3	—	16
Organ	2	Organ	4
Voice or Class Voice	1	Electives***	11
Academic Elective	3	Participation 444	1
Participation 44	1	Performance Lab. 90	0
Performance Lab. 90	0	—	16
—	—	TOTAL	198 hours
16			

Harmony 203	3	Organ	4
Analysis and Form 206	3	Electives***	11
Hist. of Mus. 223	3	Participation 444	1
Organ	2	Performance Lab. 90	0
Voice or Class Voice	1	—	16
Academic Elective	3		
Participation 44	1		
Performance Lab. 90	0		
—	—		
16			

JUNIOR

Advanced Harmony 301	3	MAJOR IN MUSIC EDUCATION	
Fine Arts minor	3	Vocal Emphasis (Four-Year Curriculum)	
Literature of Mus. 421*	3	University College requirements, 30 quarter	
Conducting 355	3	hours — including Comparative Arts 17-18-	
Organ	4	19 and those designated by asterisk.	
Participation 444	1		
Performance Lab. 90	0		
—	—		
17			

*May be taken in the Jr. or Sr. year and should include 421e

**Keyboard Harmony would best be taken at this time

***Suggested electives: counterpoint, composition, French, German, philosophy, or Bible As Literature

MAJOR IN MUSIC EDUCATION**Vocal Emphasis (Four-Year Curriculum)**

University College requirements, 30 quarter hours — including Comparative Arts 17-18-19 and those designated by asterisk.

Major in Music Education, Vocal Emphasis**Lower Division**

Principal
instrument 12

Secondary
instrument 6

Theory 27 (1-2-3; 201-202-
203; 204-205-
206)

Music History 9 (221-222-223)

Participation 6 (44)

Upper Division

Principal
instrument 10

Music Education .22 (261a, b; 263a,
b, c; 264-265;
266; 468)

Theory 6 (304; 401)

Conducting 6 (355-356)

Participation 5 (444)

Requirements outside the major

Literature Elective .. 3

Social Science 9 *One of these
groups of 9
units may be

Mathematics
or Science 9* used to satisfy
part of 30
hours for Uni-
versity College

Other Requirements**Education and**

Psychology 39 (Psy. 1-2-175;
Ed. 120 or
125; Ed. 321-
322-323; Field
Experience;
Student Teach-
ing; Student
Teaching
Seminar)

Electives in Music
Literature or

Theory 6

Electives 6

The following course plan outlines a practical sequence of courses which should be of assistance to the student in planning his course of study.

FRESHMAN

Theory 1	3
Comp. Arts 17	3
English 70	3
Psychology 1	3
P.E.	1
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0

17

Theory 2	3
Comp. Arts 18	3
English 80	3
Psychology 2	3
P.E.	1
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0

17

Theory 3	3
Comp. Arts 19	3
INCO 1	3
Social Science	3
P.E.	1
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0

17

SOPHOMORE

Dictation and Sight Singing 204	3
Harmony 201	3
Music History 221	3
Social Science	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Wind & Perc., Meth., & Mat. 263	2
Performance Lab. 90	0

18

Dictation and Sight Singing 205	3
Harmony 202	3
Music History 222	3
Psychology 175	4
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0

17

Form and Analysis 206	3	Participation 444	1
Harmony 203	3	Elective	2-3
Music History 223	3	Elective—Mus. Lit. or Theory	3
Education 125 or 120	3	Performance Lab. 90	0
Applied—Principal	2		
Applied—Secondary	1		
Participation 44	1		
Performance Lab. 90	0		
		16-17	
	16		

JUNIOR

Conducting 355	3
Teach. of Mus. in El. Grades 266	3
Education 321	3
Field Experience	2
Biology or other Sci./Math.	3
Applied—Principal	2
Participation 444	1
Performance Lab. 90	0
	17

Choral Conducting 356	3
Sec. Sch. Vocal Tech. and Mat. 264	3
Education 322	3
Wind and Perc. Meth. and Mat. 263	2
Biology or other Sci./Math.	3
Applied—Principal	2
Participation 444	1
Performance Lab. 90	0
	17

English 115 or 116	3
Sec. Sch. Vocal Tech. and Mat. 265	3
Education 323	3
Wind and Perc. Meth. and Mat. 263	2
Biology or other Sci./Math.	3
Applied—Principal	2
Participation 444	1
Performance Lab. 90	0
	17

SENIOR

Keyboard Harmony 401	3
Instrumentation 304	3
Elective—Music Lit. or Theory	3
String Meth. and Mat. 261	2
Applied—Principal	2
Participation 444	1
Elective	2-3
Performance Lab. 90	0
	16-17

Social Science	3
General Music in the Jr. High School 468	3
String Meth. and Mat. 261	2
Applied—Principal	2

Demonstration of piano proficiency is required.
TOTAL 201 hours

MAJOR IN MUSIC EDUCATION**Instrumental Emphasis — Strings
(Four-Year Curriculum)**

University College requirements — 30 quarter hours — including Comparative Arts 17-18-19 and those designated by asterick.

Major in Music Education, Instrumental Emphasis, Strings

Lower Division

Principal
instrument

Secondary
instrument

Theory

Music History 9 (221-222-223)

Voice 3

Participation 6 (44)

Upper Division

Principal
instrument

Music Education .18 (261a, b, c;
263a, b, c;
264; 468)

Theory

Conducting 6 (355-357)

Participation 5 (444)

Requirements outside of the major

Literature Elective .. 3

Social Science 9 *One of these groups of 9 units may be used to satisfy

Mathematics or
Science 9* part of 30 hours for University College

Other Requirements**Education and**

Psychology	39	(Psy. 1-2-175; Ed. 120 or 125; Ed. 321-322- 323; Field Experience; Student Teach- ing; Student Teaching Seminar)
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Electives—Music

Literature or Theory	6
Elective	3

The following course plan outlines a practical sequence of courses which should be of assistance to the student in planning his course of study.

FRESHMAN

Theory 1	3
Comp. Arts 17	3
English 70	3
Psychology 1	3
P.E.	1
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0

17

Theory 2	3
Comp. Arts 18	3
English 80	3
Psychology 2	3
P.E.	1
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0

17

Theory 3	3
Comp. Arts 19	3
INCO 1	3
Social Science	3
P.E.	1
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0

17

SOPHOMORE

Dictation and Sight Singing 204	3
Harmony 201	3
String Meth. and Mat. 261	2
Social Science	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Wind and Percussion Meth. and Mat. 263	2
Voice Class 47	1
Performance Lab. 90	0

18

Dictation and Sight Singing 205	3
Harmony 202	3
String Meth. and Mat. 261	2
Psychology 175	4
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Voice Class 48	1
Performance Lab. 90	0

17

Form and Analysis 206	3
Harmony 203	3
String Meth. and Mat. 261	2
Education 125 or 120	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Voice Class 49	1
Performance Lab. 90	0

16

JUNIOR

Music History 221	3
Education 321	3
Biology or other Sci./Math.	3
Field Experience	2
Conducting 355	3
Applied—Principal	2
Participation 444	1
Performance Lab. 90	0

17

Music History 222	3
Education 322	3
Biology or other Sci./Math.	3
Wind and Percussion Meth. and Mat. 263	2
Instrumental Conducting 357	3
Applied—Principal	2
Participation 444	1
Performance Lab. 90	0

17

Music History 223	3
Education 323	3
Biology or other Sci./Math.	3
Wind and Percussion Meth. and Mat. 263 ..	2
Elective	3
Applied—Principal	2
Participation 444	1
Performance Lab. 90	0
	—
	17

SENIOR

Keyboard Harmony 401	3
Instrumentation 304	3
English 115 or 116	3
Elective—Mus. Lit. or Theory	3
Applied—Principal	2
Participation 444	1
Performance Lab. 90	0
	—
	15
Sec. Sch. Vocal Tech. and Mat. 264	3
Gen. Mus. in the Jr. High School 468	3
Elective—Mus. Lit. or Theory	3
Applied—Principal	2
Participation 444	1
Social Science	3
Performance Lab. 90	0
	—
	15
Student Teaching	12
Student Teaching Seminar	3
	—
	15

Demonstration of piano proficiency is required.
TOTAL 200 hours

MAJOR IN MUSIC EDUCATION

Instrumental Emphasis—Wind or Percussion
(Four-Year Curriculum)

University College requirements — 30 quarter hours — including Comparative Arts 17-18-19 and those designated by asterisk.

Major in Music Education, Instrumental Emphasis, Wind or Percussion

Lower Division

Principal	
instrument	12
Secondary	
instrument	6
Theory	27 (1-2-3; 201-202-203; 204-205-206)
Music History	9 (221-222-223)
Voice	3
Participation	6 (44)

Upper Division

Principal	
instrument	10
Music Education .24	(261a, b, c; 263a, b, c, d, e, f; 264; 468)
Theory	6 (304; 401)
Conducting	6 (355-357)
Participation	5 (444)

Requirements outside the major

Literature Elective ..	3
Social Science	9 *One of these groups of 9 units may be used to satisfy
Mathematics or Science	9* part of 30 hours for University College

Other Requirements

Education and Psychology	39 (Psy. 1-2-175; Ed. 120 or 125; Ed. 321-322-323; Field Experience; Student Teaching; Student Teaching Seminar)
--------------------------------	--

Elective in Music ..	2-3
Elective	3

The following course plan outlines a practical sequence of courses which should be of assistance to the student in planning his course of study.

FRESHMAN

Theory 1	3
Comp. Arts 17	3
English 70	3
Psychology 1	1
P.E.	1
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0
	—
	17

Theory 2	3
Comp. Arts 18	3
English 80	3
Psychology 2	3
P.E.	1
Applied—Principal	2

Applied—Secondary	1	Music History 222	3
Participation 44	1	Education 322	3
Performance Lab. 90	0	Biology or other Sci./Math.	3
	—	Wind and Percussion Meth. and Mat. 263	2
	17	Sec. Sch. Vocal Tech. and Mat. 264	3
Theory 3	3	Applied—Principal	2
Comp. Arts 19	3	Instru. Conducting 357	3
INCO 1	3	Participation 444	1
Social Science	3	Performance Lab. 90	0
P.E.	1		—
Applied—Principal	2	Music History 223	3
Applied—Secondary	1	Education 323	3
Participation 44	1	Biology or other Sci./Math.	3
Performance Lab. 90	0	Wind and Percussion Meth. and Mat. 263	2
	—	String Meth. and Mat. 261	2
SOPHOMORE	17	Applied—Principal	2
Dict. and Sight Singing 204	3	Participation 444	1
Harmony 201	3	Performance Lab. 90	0
Wind & Perc. Meth. & Mat. 263	2		—
Social Science	3	Music Elective (if desired)	2-3
Applied—Principal	2	String Meth. and Mat. 261	2
Applied—Secondary	1	Wind and Percussion Meth. and Mat. 263	2
Participation 44	1	English 115 or 116	3
Field Experience	2	Applied—Principal	2
Performance Lab. 90	0	Participation 444	1
Voice Class 47	1	Performance Lab. 90	0
	—	Instrumentation 304	3
Dict. and Sight Singing 205	3		—
Harmony 202	3	SENIOR	
Wind & Perc. Meth. & Mat. 263	2	Keyboard Harmony 401	3
Psychology 175	4	Music Elective (if desired)	2-3
Applied—Principal	2	String Meth. and Mat. 261	2
Applied—Secondary	1	Wind and Percussion Meth. and Mat. 263	2
Participation 44	1	English 115 or 116	3
Performance Lab. 90	0	Applied—Principal	2
Voice Class 48	1	Participation 444	1
	—	Performance Lab. 90	0
Form and Analysis 206	3	Instrumentation 304	3
Harmony 203	3		—
Wind and Percussion Meth. and Mat. 263	2	Social Science	3
Education 125 or 120	3	Elective	3
Applied—Principal	2	String Meth. and Mat. 261	2
Applied—Secondary	1	Wind and Percussion Meth. and Mat. 263	2
Participation 44	1	Applied—Principal	2
Performance Lab. 90	0	Participation 444	1
Voice Class 49	1	Gen. Mus. in the Jr. High School 468	3
	—		—
JUNIOR	16		16-18
Music History 221	3	Social Science	3
Education 321	3	Elective	3
Biology or other Sci./Math.	3	String Meth. and Mat. 261	2
Applied—Principal	2	Wind and Percussion Meth. and Mat. 263	2
Conducting 355	3	Applied—Principal	2
Participation 444	1	Participation 444	1
Performance Lab. 90	0	Gen. Mus. in the Jr. High School 468	3
Field Experience	2		—
	—	Student Teaching	12
	17	Student Teaching Seminar	3
Demonstration of piano proficiency is required.			—
		TOTAL	201 hours
		MAJOR IN THEORY OR	
		COMPOSITION (Four-Year Curriculum)	
		University College Requirements, 30 quarter hours	
		Major in Theory or Composition	

Lower Division		
Principal		
instrument 12		
Secondary		
instrument 6		
Theory 27 (1-2-3; 201-202-203; 204-205-206)		
History 9 (221-222-223)		
Participation 6 (44)		
Upper Division		
Principal		
instrument 12		
Theory 39 (theory major, 301-302-303; 304-305-306; 310-311-312; 407-408-409; 498 6 hours, 401) (composition major, 301-302-303; 304-305-306; 310-311-312; 407-408-409; 410-411-412; 401)		
Literature 12 (including 421c and 421d)		
Participation 6 (444)		
Requirements outside the major		
Fine Arts Elective ... 9 (outside the School of Music)		
English Elective 9		
Other Requirements		
Electives 15		
The following course plan outlines a practical sequence of courses which should be of assistance to the student in planning his course of study.		
FRESHMAN		
English 70 3		
Comp. Arts 17 3		
Theory 1 3		
U.C. Req. 3		
Applied—Principal 2		
Applied—Secondary 1		
Participation 44 1		
P.E. 1		
Performance Lab. 90 0		
	17	
English 80 3		
Comp. Arts 18 3		
Theory 2 3		
U.C. Req. 3		
Applied—Principal 2		
Applied—Secondary 1		
Participation 44 1		
P.E. 1		
Performance Lab. 90 0		
	17	
INCO 1 3		
Comp. Arts 19 3		
Theory 3 3		
U.C. Req. 3		
Applied—Principal 2		
Applied—Secondary 1		
Participation 44 1		
P.E. 1		
Performance Lab. 90 0		
	17	
SOPHOMORE		
Harmony 201 3		
S.S. and Dict. 204 3		
Mus. History 221 3		
English elective 3		
Applied—Principal 2		
Applied—Secondary 1		
Participation 44 1		
Performance Lab. 90 0		
	16	
Harmony 202 3		
S.S. and Dict. 205 3		
Mus. History 222 3		
English elective 3		
Applied—Principal 2		
Applied—Secondary 1		
Participation 44 1		
Performance Lab. 90 0		
	16	
Harmony 203 3		
Form and Anal. 206 3		
Mus. History 223 3		
English elective 3		
Applied—Principal 2		
Applied—Secondary 1		
Participation 44 1		
Performance Lab. 90 0		
	16	

JUNIOR

Adv. Harm. 301	3
Counterpoint 407	2
Lit. of Mus. 421*	3
Composition 310	2
Applied—Principal	2
Fine Arts Minor	3
Participation 444	1
Performance Lab. 90	0

16

Adv. Harm. 302	3
Counterpoint 408	2
Lit. of Mus. 421*	3
Composition 311	2
Applied—Principal	2
Fine Arts Minor	3
Participation 444	1
Performance Lab. 90	0

16

Adv. Harm. 303	3
Counterpoint 409	2
Lit. of Mus. 421*	3
Composition 312	2
Applied—Principal	2
Fine Arts Minor	3
Participation 444	1
Performance Lab. 90	0

16**SENIOR**

Instrumentation 304	3
Applied 401	2
Key. Harm. 401	3
Participation 444	1
Ind. Proj. 498**	2
Composition 410***	2
Elective	4
Performance Lab. 90	0

17

Orchestration 305	3
Applied	2
Participation 444	1
Ind. Proj. 498**	2
Composition 411***	2
Elective	7
Performance Lab. 90	0

17

Orchestration 306	3
Applied	2
Lit. of Mus. El. 421	3
Participation 444	1
Ind. Proj. 498**	2
Composition 412***	2

Elective	4
Performance Lab. 90	0
	17

Demonstration of piano proficiency is required.

TOTAL 192 hours

*May be taken in Jr. or Sr. year

**Required for theory majors

***Required for composition majors

MAJOR IN MUSIC HISTORY AND LITERATURE

(Four-Year Curriculum)

University College requirements, 30 hours

Major in Music History and Literature

Lower Division

Principal

instrument 12

Secondary

instrument 6

Theory 27 (1-2-3; 201-202-203; 204-205-206)

History 9 (221-222-223)

Participation 6 (44)

Upper Division

Principal

instrument 12

Theory 18 (including 301-302-303)

Literature 18 (421a, b, c, d, e, f)

Participation 6 (444)

Requirements outside the major

Fine Arts Elective 9 (outside the School of Music)

History Elective 9 (outside the School of Music)

Foreign Language 24 (French and German)

Other Requirements

Electives 6

The following course plan outlines a practical sequence of courses which should be of assistance to the student in planning his course of study.

FRESHMAN

English 70	3
Comp. Arts 17	3
Theory 1	3
U.C. Req.	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
P.E.	1
Performance Lab. 90	0
	—
	17

Harmony 203	3
Form and Anal. 206	3
Mus. History 223	3
History of West Civ. 3	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0
	—
	16

JUNIOR

English 80	3
Comp. Arts 18	3
Theory 2	3
U.C. Req.	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
P.E.	1
Performance Lab. 90	0
	—
	17

Adv. Harm. 301	3
French or German*	4
Lit. of Mus. 421	3
Applied	2
Participation 444	1
Elective	3
Performance Lab. 90	0
	—
	16

INCO 1	3
Comp. Arts 19	3
Theory 3	3
U.C. Req.	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
P.E.	1
Performance Lab. 90	0
	—
	17

Adv. Harm. 302	3
French or German*	4
Lit. of Mus. 421	3
Applied	2
Participation 444	1
Elective	3
Performance Lab. 90	0
	—
	16

SOPHOMORE

Harmony 201	3
S.S. and Dict. 204	3
Mus. History 221	3
History of West Civ. 1	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0
	—
	16

Harmony 202	3
S.S. and Dict. 205	3
Mus. History 222	3
History of West Civ. 2	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0
	—

16

SENIOR

Lit. of Music 421	3
Fine Arts Elective	3
French or German*	4
Applied	2
Participation 444	1
Elective (Theory)	3
Performance Lab. 90	0
	—
	16

Lit. of Music 421	3
Fine Arts Elective	3
French or German*	4
Applied	2
Participation 444	1
Elective (Theory)	3
Performance Lab. 90	0
	—

16

Lit. of Music	421	3
Fine Arts Elective		3
French or German*		4
Applied		2
Participation	444	1
Elective (Theory)		3
Performance Lab.	90	0
		—
		16

Demonstration of piano proficiency is required.
TOTAL 192 hours

*Two years of one language is recommended

MAJOR IN MUSIC THERAPY **(Four-Year Curriculum)**

The Music Therapy curriculum is designed to meet the degree requirements of the College of Fine Arts and the requirements for listing as a registered music therapist by the National Association for Music Therapy.

The student is not limited to the subjects and hours listed below; however, this curriculum outlines the minimum requirements. Total requirements: 201 quarter hours including clinical experience.

University College requirements, 30 quarter hours—indicated by asterisk.

Major in Music Therapy

Lower Division

Applied Principal	
Instrument	12
Applied Secondary	
Instrument	6
Theory	27 (101-102-103; 201-202-203- 204-205-206)
Music History	9 (221-222-223)
Participation	6 (244)
Music Education	.14 (261, 263, 264)
Music Therapy	... 3 (281)

Upper Division

Music Therapy ... 11 (381-382-383-
380, 480)
 Psychological Foundations of Music 6 (481-482)
 Music Education .. 9 (304-468,
elective)
 Conducting 3 (355)
 Participation 6 (444)

Requirements outside the major

Fine Arts Elective*	9	(May be used to satisfy University College requirements)
Biological Science*	9	(Biology 1-2-3)
English		
(Composition) ...	9	(including Speech 1)
English Literature ...	6	
Social Science*	12	(1, electives)
Psychology*	22	(1, 2, 175, 332, 375, electives)

Other Requirements

Electives 13
P. E. Electives* 3

The following course plan outlines a practical sequence of courses which should be of assistance to the student in planning his course of study.

FRESHMAN

English	70	3
Comp. Arts	17	3
Biology	1	3
Theory	1	3
Applied—Principal		2
Applied—Secondary		1
Participation	44	1
P.E.		1
Performance Lab.	90	0
		17
English	80	3
Comp. Arts	18	3
Biology	2	3
Theory	2	3
Applied—Principal		2
Applied—Secondary		1
Participation	44	1
P.E.		1
Performance Lab.	90	0
		17

INCO 1	3
Comp. Arts 19	3
Biology 3	3
Theory 3	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
P.E.	1
Performance Lab. 90	0
	17

SOPHOMORE

Harmony 201	3
Dict. and S.S. 204	3
Psychology 1	3
Soc. and Rec. Instr. 281	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0

—

16

Music Hist. 224	3
Music Therapy III 383	3
Music Ed. Elec.	3
Psy.-Abnormal 332	4
Wind and Perc. Meth. and Mat. 263	2
Applied Elective	1
Participation 444	1
Clinical Exp. I 380	1
Performance Lab. 90	0

—

18

SENIOR

Harmony 202	3
Dict. and S.S. 205	3
Psychology 2	3
String Meth. and Mat. 261	3
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0

—

16

Instr. 304	3
Sociology Elective	3
Psy. of Excp. Child 375	4
Elective	4
Applied Elect.	1
Participation 444	1
Performance Lab. 90	0

—

16

Harmony 203	3
Form and Anal. 206	3
Sociology 1	5
Woodwind and Perc. Meth. and Mat. 263	2
Applied—Principal	2
Applied—Secondary	1
Participation 44	1
Performance Lab. 90	0

—

17

Psych. Found. of Mus. I 481	3
Prob. of Gen. Mus. 468	3
Eng. Lit. 115	3
Elective	5
Applied Elect.	1
Participation 444	1
Performance Lab. 90	0

—

16

JUNIOR

Music Hist. 222	3
Music Therapy I 381	3
Conducting 355	3
Education Psy. 175	4
Wind and Perc. Meth. and Mat. 263	2
Applied Elective	1
Participation 444	1
Performance Lab. 90	0

—

17

Psy. Found. II 482	3
Sociology Elective	4
Eng. Lit. 116	3
Elective	4
Clinical Exp. II 480	1
Applied Elect.	1
Participation 444	1
Performance Lab. 90	0

—

17

TOTAL 201 hours

Music Hist. 223	3
Music Therapy II 382	3
Sec. Sch. Vocal Tech. and Mat. 264	3
Psychology Elec.	4
Wind and Perc. Meth. and Mat. 263	2
Applied Elective	1
Participation 444	1
Performance Lab. 90	0

—

17

Additional credits in Music 261 or Music 263 may be substituted for applied music elective credits upon approval of the Dean and the recommendation of the adviser.

In addition to the above course work at Ohio University the student must complete Music 480, Clinical Experience II (six-month internship) at an approved hospital for the training of music therapists to be eligible for listing with NAMT as a registered music therapist (RMT).

THE SCHOOL OF THEATER

John A. Walker, *Acting Director*

The School of Theater provides a full range of courses in historical, critical, technical, interpretive, and creative aspects of dramatic and theater arts. Five majors are offered at the undergraduate level, a General Theater major for those wishing a broad education, and preprofessional programs in Acting, Design-Technical Production, Playwriting, and Children's Drama for those wishing to concentrate in a particular area.

Students in theater are expected to take part in an extensive production schedule offered by the University Theater in extension and supplementation of their academic experiences. Each season normally consists of five major productions, the annual Fine Arts Musical, four Studio Series programs, and various presentations of the Laboratory Theater, Playwrights Workshop, Actors Workshop, and Dance Workshop. In the summer, additional opportunities are available in the Ohio Valley Summer Theater, a joint community-university organization, and the Monomoy Theater sponsored by the University on Cape Cod.

Excellence in scholarship and performance are recognized by a number of annual awards, such as the Irma E. Voigt memorial award of Sigma Kappa to a senior girl for outstanding achievement in dramatic production, and the University Theater "Rufus" awards for superior contributions in acting and production.

MAJORS IN THE SCHOOL OF THEATER

The curriculum of the School of Theater provides a general major for those who wish a broad education and a series of preprofessional majors for those who wish to concentrate in a particular area. Both sorts of majors follow the same basic curriculum in the first two years and share the requirement in the upper division for a strong core of studies in theater history and dramatic literature. All majors are expected to achieve proficiency in basic production techniques

and skills. Additionally, they will be required to demonstrate satisfactory mastery of the fundamentals of vocal and physical action for the theater consistent with their career goals and objectives.

The University College program should include INCO 3, Theater Arts 10 A,B,C, and Comparative Arts 17,18,19. Other courses available to students in University College include Theater Arts 1, 11 A,B,C, 30 A,B,C, and 37. Additionally, prospective theater majors should complete the basic requirement of English and three quarters of mathematics, natural sciences, or social sciences. Other lower division requirements include Theater Arts (or INCO) 20; 110 A,B,C; 111 A,B,C; 115; 130 A,B,C; and 170-171-172. Provisions may be made for waiving the requirements of 110 and 111 in consideration of the student's accomplishment in 10 and 11 and his intended major concentration.

At the end of the sophomore year, the student must indicate his intended major in the upper division and petition through his adviser for admission to that program. The Theater faculty will then rule on the petition, if necessary requesting audition, submission of supplementary materials, or other such aids as may be desired to evaluate the student's potential in the chosen area. Once admitted to the upper division program, each student will be observed and guided by the staff, and his progress will be formally reviewed at periodic intervals. At the end of any quarter the student may be recommended for transfer to another sequence or degree program within the School, required to modify his program, or denied further enrollment as a degree candidate within the School.

Majors in all areas must elect three additional quarters beyond University College requirements in English and American literature, including English 115 and 116. They must also elect three additional quarters beyond University College requirements in one of the following: Fine Arts and Humanities, with foreign language particularly recommended; social sciences; mathematics; or natural sciences. This may be a continua-

tion of work begun at the University College level or another field of study. Majors concentrating in Playwriting must take at least two outside courses in creative writing, including one in English.

Students planning to teach in the public schools should consult with their advisers concerning additional requirements in speech, English, education, and psychology. Such students will normally enroll in the general major sequence and should expect to take one or more additional quarters to accomplish all courses necessary for certification.

Lower division requirements for all majors are:

Th.Ar. 1—Introduction to Theater	3
INCO 3—Public Speaking	4
Th.Ar. 10 A,B,C—Body Training	3
Th.Ar. 11 A,B,C—Voice Training	3
Th.Ar or INCO 20—Oral Interpretation	3
Th.Ar. 30 A,B,C—Technical Production I ..	6
Th.Ar. 37—Makeup	1
Th.Ar. 110 A,B,C—Stage Movement	3
Th.Ar. 111 A,B,C—Stage Speech	3
Th.Ar. 115—Principles of Acting	3
Th.Ar. 130 A,B,C—Technical Production II .	6
Th.Ar. 170-171-172—Theater History I, II, III	9

All majors will take in the upper division a minimum of fifteen credits in theater history and literature courses in the sequence numbered from Theater Arts 370 to 377. The General Major requires thirty additional credits in Theater Arts courses at the 200 to 400 level. The several pre-professional majors require forty-five Theater Arts credits beyond those listed for the lower division. The specific requirements of each major follow.

GENERAL THEATER MAJOR

Th.Ar. 210—Intermediate Acting	3
Th.Ar. 232—Theatrical Rendering	3
Th.Ar. 333—Scene Design I	3
Th.Ar. 360—Directing I	3
Th.Ar. 361—Directing II	3

15 credits in Theater Arts 370-377 inclusive.
15 additional credits in Theater Arts courses from 200 to 400 level.

ACTING MAJOR

Th.Ar. 210—Intermediate Acting	3
Th.Ar. 232—Theatrical Rendering	3
Th.Ar. 333—Scene Design I	3
Th.Ar. 360—Directing I	3
Th.Ar. 361—Directing II	3

15 credits in Theater Arts 370-377 inclusive.
30 additional credits in Theater Arts 310-319 and 410-419.

DESIGN-TECHNICAL PRODUCTION MAJOR

Th.Ar 232—Theatrical Rendering	3
Th.Ar. 233 A,B—Bases of Theatrical Design ..	4
Th.Ar. 333—Scene Design I	3
Th.Ar. 334—Scene Design II	3
Th.Ar. 335—History of Costume	4
Th.Ar. 336—Costume Design I	3
Th.Ar. 337—Costume Design II	3
Th.Ar. 360—Directing I	3
Th.Ar. 361—Directing II	3

15 credits in Theater Arts 370-377 inclusive.
16 additional credits in Theater Arts courses from 200 to 400 level.

PLAYWRITING MAJOR

Th.Ar. 210—Intermediate Acting	3
Th.Ar. 232—Theatrical Rendering	3
Th.Ar. 250—Playwriting I	3
Th.Ar. 333—Scene Design I	3
Th.Ar. 350—Playwriting II	3
Th.Ar. 360—Directing I	3
Th.Ar. 361—Directing II	3
Th.Ar. 450—Playwrights Workshop	3
Th.Ar. 455—Dramatic Criticism I	3
Th.Ar. 456—Dramatic Criticism II	3

15 credits in Theater Arts 370-377 inclusive.
15 additional credits in Theater Arts courses from 200 to 400 level.
6 outside credits in creative writing.

CHILDREN'S DRAMA MAJOR

Th.Ar. 140—Introduction to Child Drama ...	2
Th.Ar. 210—Intermediate Acting	3
Th.Ar. 232—Theatrical Rendering	3
Th.Ar. 240—Dramatic Literature for Children	2
Th.Ar. 333—Scene Design I	3
Th.Ar. 334—Scene Design II	3
Th.Ar. 340—Children's Theater	3
Th.Ar. 341—Creative Dramatics	3
Th.Ar. 360—Directing I	3
Th.Ar. 361—Directing II	3
Th.Ar. 440—Advanced Children's Theater ...	3
Th.Ar. 441—Practicum in Creative Dramatics	3
Th.Ar. 445—Children's Drama and the Arts ..	3

15 credits in Theater Arts 370-377 inclusive.
8 additional credits in Theater Arts courses from 200 to 400 level.

DEPARTMENT OF COMPARATIVE ARTS

Anthony Trisolini, *Chairman*

Courses in Introduction to Fine Arts and History Courses in individual content areas.

This sequence of courses is provided for majors in the College of Fine Arts who wish to study the relationship of all the arts, and for all students in the University who wish to elect courses with the basic purpose of understanding his cultural heritage.

The entire sequence of courses will operate as full-year courses on a three quarter sequence; three quarter hours of credit for

each quarter for a total of nine quarter hours.

The courses service the following areas:

1. As College of Fine Arts Requirements for majors in the College.
2. As Humanities requirements for College of Fine Arts majors and for students in University College.
3. As Humanities requirements for students in other degree colleges, and for transfer students from other universities.
4. Introductory Courses serve as state requirements for certification in the College of Education.

THE DIVISIONS AND SPECIAL PROGRAMS

OFF-CAMPUS ACADEMIC PROGRAMS

Edward M. Penson, *Dean*

REGIONAL CAMPUSES

Ohio University has five campuses other than the Athens Campus. They are located in Belmont County (St. Clairsville), Chillicothe, Lancaster, Portsmouth and Zanesville and each has a permanent building. An Academic Center at Ironton and an Educational Center at Lockbourne Air Force Base also come under the jurisdiction of the Office of Off-Campus Academic Programs.

The special objective of the regional campuses is to serve students at the freshman and sophomore levels. A full two-year curriculum in the arts and sciences, business administration and education is offered, as well as programs in fine arts, and engineering. Some regional campus students may choose to earn the Associate in Arts degree by following the approved two-year program; but the majority of students will move on to the Athens Campus for their junior and senior years. These students will not be known as "transfer students" because they

will have been admitted already as students of Ohio University.

The admissions policies for the regional campuses are the same as those of the Athens Campus. Ohio high school graduating seniors who can commute from home to one of the five new campuses will be admitted as regular full-time or special part-time students, depending upon predicted grade-point averages. This decision is made on the basis of the high school transcript, scholastic aptitude test or American College Test results, plus the Ohio high school recommendations. Applicants who cannot commute will be accepted at any of the regional campuses provided they can meet residence status requirements. The new campuses do not have residence halls, but each has approved outside housing.

EXTENSION DIVISION

The assignment of faculty personnel is made by the department chairman or the dean of the college and the Director of the Extension Division. Extension classes, adult and continuing education classes, and correspondence courses are planned as requests and need indicate. Both credit and noncredit

courses are offered. They may or may not lead to a degree, but students seeking admission to a degree program must be admitted through regular university admissions procedures. Courses may be designed to meet the special needs of business, industrial and professional groups as well as individuals. Direct inquiries to the Director, Extension Division or to the Dean of Off-Campus Academic Programs.

CORRESPONDENCE STUDY: A student enrolling in a correspondence course for degree credit must be in good standing in his college and have the approval of his dean. Upon submitting the written approval and fee for the course, the student receives a study guide with assignments for the courses. Supervised examinations include a mid-course and a final. An initial period of twelve months is permitted upon registration for a correspondence course.

PHYSICAL EDUCATION AND INTERCOLLEGIATE ATHLETICS

William D. Rohr, *Director*

For nearly a century colleges and universities have recognized a responsibility for programs of student health practices, required physical education, recreational activities, intramural sports, or intercollegiate athletics. Ohio University has kept abreast of this educational movement.

Participation in selected physical activities which are harmonious with one's ability and desires contributes to general health, endurance, physical skill, mental and emotional poise, and to interesting recreational forms. These activities should be engaged in throughout life in order to develop and maintain an efficient physiology. When students ignore this phase of their education, they should understand that they are closing doors against many interesting and beneficial activities which would contribute to better living. In addition to purely physical development, sports and athletic programs are rich with possibilities for the acquisition of social

intelligence, sportsmanship, recreational skills, and lasting friendships. These qualities fit into the American way of living.

With this in mind the Division of Physical Education and Intercollegiate Athletics is pursuing a broad educational program which is designed to fit the diversified interests of all men and women at the University. The functions of the Division fall into the following categories:

COORDINATION WITH HEALTH CENTER

Close coordination with the program of health services directed by physicians and nurses at the Hudson Health Center.

REQUIRED COURSES

Three courses of one quarter hour credit each in physical education are required for men and women. Subject to the exceptions listed by the colleges, men and women may apply three additional quarter hours of credit toward their degree requirements.

(a) The program for men includes dual, individual and team sports, aquatics, combatives, gymnastics and rhythmnics. Upon request physical proficiency and sports tests may be taken, and, if prescribed standards are met, the requirement may be reduced.

(b) The program for women includes dual, individual and team sports, aquatics, rhythmnics, gymnastics, and outing activities.

For additional information on (a) and (b) refer to "Physical Education" in the graduation section of the catalog.

ADAPTED ACTIVITIES

Men and women who for any medical reason are unable to participate in the regular program are assigned with medical permission to a class where they will be directed in activities adapted to their special needs.

INTERCOLLEGIATE ATHLETICS

Ohio University is a charter member of the Mid-American Conference which is composed of seven prominent universities in the middle west. The other members are Miami,

Toledo, Western Michigan, Kent, Bowling Green, and Marshall.

In the administration, financing, organization and management of the Intercollegiate athletic program, the Division of Physical Education and Intercollegiate Athletics adheres to the policies of the National Collegiate Conference. All students are encouraged and welcomed to try out for any team of their choice. Ohio University teams go into competition thoroughly coached and trained. This training under excellent leadership makes it a privilege and an honor to participate on athletic teams at the University.

Medical attention for athletic squads is under the direction of a team physician. He has at his disposal the personnel and facilities of a modern university hospital, and is aided by a qualified and experienced trainer.

University teams are organized in the following sports: football, basketball, baseball, track, wrestling, cross country, golf, soccer, tennis, swimming and ice hockey.

For women, intercollegiate competition is scheduled in field hockey, basketball, softball, swimming, golf, and tennis. Women adhere to policies recommended by the Division for Girls' and Women's Sports and by the Women's Physical Education Section of the Ohio College Association.

INTRAMURAL SPORTS AND RECREATIONAL ACTIVITIES

The Division offers an extensive program of intramural sports for men and women. Students are encouraged to make use of available facilities in their leisure time. This provides a way for students to participate in sports and recreation. Upon request, clubs will be organized in sports or physical recreation activities as facilities and personnel are available.

MAJOR AND MINOR CURRICULA

Major and minor curricula are offered for prospective teachers of health education, physical education, athletic coaching, and

recreational leadership. By fulfilling the requirements, students who major in the Division of Physical Education and Intercollegiate Athletics will apply for the degree Bachelor of Science in Education.

The Division also offers a program of graduate study leading to the Master's Degree.

A major in physical education and athletics prepares men and women students for the following positions: teacher of physical education in the elementary and secondary schools, teacher of health, playground director, athletic coach, camp counselor, and recreational leader for industrial concerns and municipalities.

The Division encourages major students to assist with the instruction in men's and women's physical activity classes. This experience is advantageous to a prospective teacher.

A minor in physical education and athletics is the minimum program acceptable to the State Department of Education for the teaching of physical education and the coaching of athletic teams in the schools of Ohio.

A minor in health education will qualify the student to assume health education responsibilities in the elementary and secondary schools.

A minor in recreation will prepare the student for leadership in school, industrial and community recreation, summer playground programs, and outing or camping activities.

The University requirements pertaining to English composition, physical education, and speech, which are not indicated in the curricula below, are outlined in the University section of the catalog.

The following courses constitute a teaching major in physical education and athletics:

MEN

	Freshman
Zool. 3—Principles of Zoology	4
Zool. 4—Principles of Zoology	4
P.E.I.A. 61—Introduction to Physical Education	1
P.E.I.A. (elected service courses to strengthen skill weakness)	1

Sophomore

Zool. 101—Anatomy	6
Zool. 145—Physiology	4
P.E.I.A. 202—Personal and Community Health	4
P.E.I.A. 227—First Aid	3
P.E.I.A. 250—Recreation	5
P.E.I.A. 265—Program Skills	2
P.E.I.A. 266—Elem. School Physical Education	3
P.E.I.A. 268—Football Skills	2
P.E.I.A. 281—Administration of Intramural Activities	3

Junior

P.E.I.A. 234—Program Techniques	1
P.E.I.A. 252—Kinesiology	3
P.E.I.A. 321—Program Skills	2
P.E.I.A. 322—Program Skills	2
P.E.I.A. 333—Theory of Adapted Activities ..	3
P.E.I.A. 365—Coaching Basketball	3
P.E.I.A. 366—Coaching of Baseball	3
P.E.I.A. 367—Athletic Coaching Football ..	3
P.E.I.A. 368—Athletic Coaching Track	3
P.E.I.A. 369—Teaching of Health	5
P.E.I.A. 495—School Health Problems	4

Senior

P.E.I.A. 404—History and Principles	5
P.E.I.A. 406—Organization and Administration	5
P.E.I.A. 409—Tests and Measurements	5

WOMEN**Freshman**

Zool. 3—Principles of Zoology	4
P.E.I.A. 7, 8, 9—Modern Dance	3
P.E.I.A. 165, 166, 167—Selected physical education activities ..	6

Sophomore

P.E.I.A. 202—Personal and Community Health	4
227—First Aid	3
Zool. 101, 252—Human Anatomy, kinesiology	9
Zool. 145—Human physiology	4
P.E.I.A. 250—Recreation	4
P.E.I.A. 266—Elementary School Physical Education	2
P.E.I.A. 221, 222, 223—Selected physical education activities ..	6

Junior

P.E.I.A. 333—Activities for the Handicapped	3
369—Teaching of Health	5
370, 371, 372—Theory and Practice in Sports	6
374, 375—Theory and Practice in Rhythmic Activities ..	2
404—History and Principles of Physical Education	5
Elected sports skill classes	

Senior

P.E.I.A. 365—Athletic coaching (elective)	2
406—Organization and Adm. of Physical Education	5
409—Tests and Measurements	5
495—School Health Problems	5
Educ. 461, 463, 465—Student teaching (any quarter)	15

The following courses are suggested to meet the minimum of 36 quarter hours required by the State Department of Education for a teaching minor in health and physical education.

MEN

Biological Science	9
biology, zoology, or human anatomy	
Principles and Organization	10
P.E.I.A. 404—History and Principles of Physical Education	5
P.E.I.A. 406—Organization and Administration of Physical Education	5
Theory and Practice	6
P.E.I.A. 265-266—Program Skills	(2-3)
P.E.I.A. 321-322—Program Skills	(2-2)
Theory and Coaching	6
P.E.I.A. 239—Athletic Officiating	
P.E.I.A. 281—Administration of I.M. Sports	
P.E.I.A. 365, 366, 367, 368—Coaching	
Health Education	12
P.E.I.A. 202—Personal and Community Health	
P.E.I.A. 227—First Aid	
P.E.I.A. 229—Athletic Training	
P.E.I.A. 369—Teaching of Health	
Ind. T.—80	

WOMEN

Biological Life Sciences	9
Zoology—The Living World	
Methods and Materials (A)	6
P.E.I.A. 165, 166, 167	
P.E.I.A. 221, 222, 223	
P.E.I.A. 266,	
P.E.I.A. 15	
P.E.I.A. 7, 8, 9	
Methods and Materials (B)	6
P.E.I.A. 370, 371, 372	
P.E.I.A. 374, 375	
Health Education	9
P.E.I.A. 202, 269, 495	
Principles, Organization	6
P.E.I.A. 406 or 404	

The following courses constitute a state certified minor in health education:

MEN AND WOMEN

Inco. 3—Public Speaking	4
ED. El. 100—Studies of Children	4
Zool. 101—Anatomy	6
Zool. 145—Physiology	4

Psych. 131—Adjustment	3
P.E.I.A. 202—Personal and Community Health	4
P.E.I.A. 227—First Aid	3
P.E.I.A. 369—Teaching of Health	5
P.E.I.A. 495—School Health Problems	4

The following courses constitute a minor in recreation leadership:

MEN AND WOMEN

S. & A. 101—Principles of Sociology	5
Inco 3—Public Speaking	4
Ind. T. 9—Crafts	2
P.E.I.A. 15—Folk Dance	1
P.E.I.A. 221, 222 or 223—Program Skills	2-6
P.E.I.A. 265, 266, or 267—Program Skills	2-6
P.E.I.A. 227—First Aid	3
P.E.I.A. 250—Recreation	5
P.E.I.A. 449—Community Recreation	4
ELECTIVE COURSES:	
P.E.I.A. 7, 8, 9—Modern Dance	1-3
P.E.I.A. 166—Program Skills	2
Th.Ar. 201—Play Production	4
P.E.I.A. 114—Camp Craft	1
P.E.I.A. 118—Life Saving and Water Safety	1
P.E.I.A. 374, 375—Theory and Practice of Rhythmic Activities	1
P.E.I.A. 334—Program Techniques	1
Elect to a total of 36 quarter hours	

THE RESERVE OFFICERS TRAINING CORPS

Ohio University maintains two ROTC departments: the Department of Military Science and the Department of Aerospace Studies.

ROTC is divided into two phases: the Basic Course and the Advanced Course. The University offers a four-year program and a two-year program for both departments.

BASIC COURSE REQUIREMENTS. In general, any physically qualified male student who is a U.S. citizen and is more than 14 years of age is eligible for enrollment in the basic course.

ADVANCED COURSE REQUIREMENTS. To be eligible for the advanced course a student must meet academic, physical, aptitude and moral selection criteria; complete either the

basic course on campus or the six-week summer camp, following the sophomore year; and enlist in the Reserve of the respective service. The services may call to active duty in their enlisted rank any student who willfully evades the terms of the contract. The policy of the Departments of the Army and Air Force is to use this authority only when it is clearly established that a student willfully and purposely evades his responsibility. Academic failure, financial difficulty, or inaptitude will not constitute willful evasion.

SCHOLARSHIPS. A limited number of scholarships are available for those qualified students participating in the four-year program. These scholarships pay costs of tuition, fees, books, and laboratory expenses. In addition, recipients receive a subsistence allowance at the rate of \$50.00 per month for the period the scholarship is in effect.

SUBSISTENCE ALLOWANCE. Non-scholarship students in the advanced course receive subsistence allowance of \$40.00 per month.

UNIFORMS AND EQUIPMENT. Textbooks, training equipment, and complete uniforms are loaned to all ROTC students without cost. A student entering the advanced course receives, without cost, a complete officer-type uniform. The newly commissioned Second Lieutenant receives a \$300 clothing allowance upon entry on active duty.

COMMISSIONS. A student who successfully completes the ROTC advanced course and the requirements for a baccalaureate degree will be offered a commission as a Second Lieutenant in the United States Army or the United States Air Force.

Students who have successfully completed the first year of the ROTC advanced course and have shown evidence of outstanding leadership, scholarship, and achievements in extracurricular activities are eligible for appointment as "Distinguished Military Students" (Army) and "Distinguished Cadets" (Air Force). Distinguished Military Students/Cadets may be considered for commissions in the Regular Army or Regular Air Force.

SPECIAL SCHOOLING. Both departments encourage graduate study and may permit a delay in call to active duty for up to four years for students enrolled in graduate level study. Selected officers, after entrance on active duty, are sent to civilian universities or service technical institutes for graduate work leading to a master's degree or to the Doctor of Philosophy degree in a variety of specialized fields.

DEPARTMENT OF MILITARY SCIENCE

The Military Science program prepares the student to fulfill his role as an officer in the United States Army. The courses are broad in scope, preparing the student for a commission in one of the several branches which make up the Army. During recent years, Ohio University Army ROTC graduates have been commissioned in the Adjutant General Corps, Army Intelligence, Armor, Artillery, Chemical Corps, Finance Corps, Infantry, Medical Service Corps, Ordnance Corps, Quartermaster Corps, and the Signal Corps. Assignment to a branch will depend on several factors including needs of the service, the desires of the individual, and his academic background. Every effort is made to commission graduates in a branch for which they are suited by virtue of their college training. During their senior year, physically qualified students may enroll in the AROTC Flight Training Program. Conducted by the University Aviation Department at no expense to the student, the program provides the graduate with the opportunity to earn his private pilot's license and his wings as an Army Aviator.

DEPARTMENT OF AEROSPACE STUDIES

The Aerospace Studies program is designed to develop the attitudes and skills required of professional Air Force officers. Upon being commissioned the new officer is assigned to a job in the Air Force which best combines his academic major, his desires, and the needs of the Air Force.

Interested and qualified cadets have the option of becoming flying officers, and such identification is made tentatively at the beginning of the advanced course. These cadets will receive 36 hours of flight training in their senior year which may qualify them for a private pilot's license and they will enter USAF flying training upon entry on active duty. The on-campus training is provided at no cost to the cadet as part of the Air Force ROTC program. Qualified cadets may also enter Navigation Training upon going on active duty.

SPECIAL PROGRAMS

Experimental programs of various kinds, particularly those involving more than one academic department within the University, are normally administered through the Office of Special Programs, located in Chubb House. Among the programs presently included in this group are The Honors College, The Ohio Fellows Program, and The Ohio Program of Intensive English which are described below. The aim of this office is to encourage innovation and experiment within the University and to offer special opportunities for education and counseling to students of unusual talent, aptitude, or achievement.

THE HONORS COLLEGE

The Honors College offers its students the advantages usually associated with smaller liberal arts colleges in addition to the resources of a large university. Small classes and independent study encourage a personal relationship between faculty members and students.

Students who complete at least one quarter of their freshman year with a 3.5 or better average and who indicate a willingness to respond to the challenge of independent study are eligible to enter the Honors College program.

A student admitted to the Honors College continues in the College if his interest and academic progress justify it. He may

withdraw from the College at his own request.

Honors courses for sophomore students are offered in the natural sciences, humanities, social sciences, education, and engineering. These honors courses present a special treatment of the area studied and are available only to students in the College. Each student enrolls in at least two honors courses each term of his sophomore year. He completes his registration with courses in his major area of concentration in addition to other courses necessary to satisfy the degree requirements in his particular degree granting college.

Junior students may elect to work in departmental honors described below. Plans are now being formulated to offer a series of interdisciplinary and depth studies under a special Honors College course number as an alternative to departmental honors. Honors students who follow this sequence will take one of these special courses each term during their junior and senior years. A more detailed description of the Honors College is in preparation and may be had upon request from the Director of the Honors College.

In addition to unique academic opportunities, Honors College students are granted special privileges appropriate to their abilities: preferred registration permits maximum course selection, course prerequisites may be waived, special library privileges are available, invitations are offered to meet distinguished campus visitors and lecturers.

DEPARTMENTAL HONORS PROGRAM

The Departmental Honors Program is offered to give superior students freedom to pursue intensive study in their chosen fields. The aims of the program include acquisition of knowledge in a chosen field, integration of knowledge of one field with that of related fields, development of the ability to carry on independent investigation and research, enhancement of skill in the written expression of the results of reading or investigation, and development of creative talents.

Junior students in all the degree granting colleges at Ohio who have attained a point-hour ratio of 3.0 or better on all work attempted and possess a talent to work independently may become candidates for a degree with honors in their chosen field of study. Notification to those eligible, but not in the Honors College, is made by the Honors College at the end of the sophomore year in order to permit planning by the student for his junior year regarding the necessary course work required for the development of the honors program thesis or creative project.

During the senior year, an honors thesis or completed creative project which receives six semester hours credit is submitted to the Honors College. Also, during the semester in which the student is a candidate for graduation, he takes a comprehensive examination over the work in the honors area. A student registered in the program who fails to maintain at least a 3.0 accumulative point-hour ratio is asked to withdraw. If the honors thesis is in progress at this time, credit and grade are received for that part of the work completed. Students not receiving a mark of "satisfactory" on the comprehensive examination are not permitted to graduate with honors in a special field.

A student whose adviser does not grant a grade of B or better for the completed project is disqualified for honors in his field of study but retains the course credit earned by his honors work. A student who completes an acceptable project is graduated with honors. Suitable notation is made on the student's transcript, on the commencement program, on the diploma, and a special certificate of achievement is awarded.

OHIO FELLOWS PROGRAM

Ohio University was one of the first universities in the nation to supplement the regular academic experience with a special program for students who have demonstrated a superior ability to lead and through working with others to achieve goals of broad social significance.

The Ohio Fellows Program is designed and is constantly re-evaluated to assist in

the personal development of persons who may have that broad range of intelligence, ambition, and character essential to assume outstanding service in public affairs. Established in 1964 with the assistance of The Richard King Mellon Charitable Trusts, the program remains voluntary, highly selective, and experimental.

Ohio Fellows: (1) sit in on small discussions with distinguished guests to the campus. These discussions have included such men as Robert McNamara, Charles Percy, Dean Rusk, Maxwell Taylor, and many notable figures from education, business, religion, and the arts; (2) make both formal and informal field trips to become acquainted with policy and management problems in such areas as government, science and the War on Poverty; (3) serve in two ten-week summer internships. Fellows are carefully matched with a man or woman who is making a recognized contribution to society in either a profit or non-profit organization; and (4) receive frequent counseling and review of their progress and plans.

All freshman and sophomore men and women are eligible to apply for admission to the Ohio Fellows Program. Selection is based on a broad range of criteria, of which high academic achievement and aptitude are not necessarily the most influential in determining final selection. Another purpose of the selection process is to identify more clearly the needs and interests of the many highly able students who may not aspire

to a role of major responsibility in society and to offer appropriate attention and guidance.

Past experience has shown that the most successful applicants are students who have determination and curiosity, and who are fully prepared to devote considerable time and effort toward personal growth, self-criticism, and understanding of the opinions and rights of others. However, the program does not at present consume more than an average of two hours' time each week.

Interested students are urged to contact Mike Long, Director of the Ohio Fellows Program, in Chubb House.

OHIO PROGRAM OF INTENSIVE ENGLISH (OPIE)

(English for Foreign Students)

This program gives intensive training in English to non-native speakers of all levels of competency. After placement through language achievement tests, the student receives daily instruction in pronunciation, composition, and grammar through a combination of classroom drills and laboratory exercises. The program is designed to raise the student's level of English usage to the point of his being able to do classroom work in American colleges and universities.

For further information on fees and enrollment, write to Dr. Robert Dakin, Director, Ohio Program of Intensive English, Ellis Hall, Athens, Ohio 45701.

COURSES OF INSTRUCTION

COURSES OF INSTRUCTION

CATALOG NUMBER — The catalog number indicates the student classification for which the course is primarily intended.

- 0- 99 Freshmen
- 100-299 Lower Division
- 300-499 Upper Division

In general, an odd number indicates the first or third quarter of a three-quarter course; an even number, the second quarter. An exception occurs in the numbers used for the teaching techniques courses.

Three numbers at the beginning of a course indicate a three-quarter or year course. A *hyphen* between the numbers indicates that the course is a continuous sequence; that is, the first quarter is a prerequisite for the second quarter, and the second quarter is a prerequisite for the third quarter. A *comma* between the numbers indicates that although the course is a three-quarter course, the first and second quarters are not prerequisites for the quarters they precede.

CREDIT — Credit for a course is indicated by the number or numbers in parentheses following the course title, and, in the case of a year course, is shown for each quarter. In a quarter course it may be expressed thus: (3), (1 to 3), or (2 or 3); in a year course, (3-3-3), (3,3,3), (1 to 3-1 to 3-1 to 3), or (2 or 3-2 or 3-2 or 3).

A course with one quarter hour credit

(1) is the equivalent of one recitation or two or more laboratory periods a week throughout a quarter.

In a course carrying variable credit the credit may be expressed thus, (1 to 4), indicating that one hour is the minimum and four hours the maximum amount of credit allowed for the course in one semester. A student may enroll for a course with variable credit any number of times and for any number of quarter hours, within the quarter limit, provided the total registration for the course does not exceed the maximum credit indicated in the course description.

Course prerequisites are indicated at the end of course descriptions following the abbreviation, "Prereq:" A student who completes an advanced course may not subsequently enroll in a prerequisite course for credit.

INSTRUCTORS — The listing is as of March, 1967. Unless otherwise indicated in *italics* following the course description, the course is taught by the staff of the department.

FEE — When a course requires a private instructional fee, the amount is stated in the description of the course.

CLASS SCHEDULE — A Schedule of Classes is available each quarter from the Registrar.

ACCOUNTING

Professor: Beckert.

Associate Professor: Reininga.

Assistant Professors: Cox, Davis, Pearl.

Instructor: Lauer.

Lecturers: Smith, Stephenson (acting chairman).

Part-Time Lecturers: Abel, Kelton.

101-102. Managerial Accounting (5-4)

Uses of accounting information for making managerial decisions. Prereq: Ec. 2 or 202 or with Ec. 2 or 202.

103. Accounting Principles and Procedures (5)

Fundamental accounting principles and practices emphasizing data accumulation using accounting techniques. Primarily intended for those specializing in accounting. Prereq: 102.

304-305. Intermediate Accounting (3-3)

Preparation and analysis of accounting statements; special problems in accounting for current, fixed, and intangible assets, for liabilities, and for corporate net worth; funds and reserves; and investments. Prereq: 103.

310. Cost Accounting (4)

Manufacturing cost determination under job-order and process systems. Establishment of standard costs, budgets and analysis of variances. Prereq: 103.

311. Industrial Accounting (4)

Accounting principles with emphasis on accounting for material, labor and overhead in job-lot and process cost systems. Not open to students working toward B.B.A. degree. No credit for those who have completed 75-76 or 101-102.

317. Federal Income Taxes (4)

Beginning study of Federal income taxes for individuals, partnerships, and corporations. Prereq: 102 or 311.

324. Advanced Cost Accounting (3)

Analysis of relevant costs for decision making including non-manufacturing costs. Current cost accounting topics. Prereq: 310.

343. Federal Income Tax Planning (3)

Study of advanced tax problems of individuals, partnerships, and corporations including tax planning and administration. Prereq: 317.

401. Auditing Principles and Practice (4)

Purposes and scope of audits and examinations; audit principles and procedure; and audit reports and certificates. Prereq: 24 hrs. of accounting.

402. Internship (4)

One academic quarter of acceptable accounting work experience including periodic written reports, a final report, and an oral examination — all analyzing the work experience and integrating it with the academic program. Prereq: senior rank and 30 hrs. of accounting and 401.

405-406. Advanced Accounting (4-3)

Problems peculiar to partnerships, receiverships, fiduciaries, installment sales, consignments, insurance, estates and trusts; compound interest applications; governmental accounting; branches, consolidations, and mergers; and foreign exchange. Prereq: 305.

481. Research in Accounting (2-5)

Independent study in area of accounting theory, public accounting, controllership, governmental accounting, or Federal taxes. Prereq: 30 hrs. of accounting or perm.

491. Seminar in Accounting (3-6, max. 12)

Prereq: 30 hrs. of accounting, senior rank and 401.

ADVERTISING

See Marketing.

ANTHROPOLOGY

See Sociology.

ARCHAEOLOGY AND ANTIQUITIES

101. Introduction to Archaeology—Egypt (5)

Aims, methods, and techniques; general types of archaeological work and excavation with emphasis on Egyptian sites. May be taken by students who have had 103 and/or 252 as well as by beginners. (Fall quarter, 1968-69 and 1970-71) *Hultgren*

103. Introduction to Archaeology—Rome (5)

Similar to 101, but with emphasis on Roman sites. May be taken by students who have had 101 and/or 252 as well as by beginners. (Fall quarter, 1967-68 and 1969-70) *Hultgren*

252. Archaeology of Greece (5)

Archaeology of Greece and Aegean islands with emphasis on Minoan and Mycenean civilizations. Prereq: 101 or 103; or 18 hrs. of foreign language; or 12 hrs. of history (or art history) and antiquities. (Spring quarter) *Hultgren*

ARCHITECTURE AND DESIGN

Professors: Clark (director), Smith, Roseland.
Associate Professors: Millman, Deihl, Young, Moran.

Assistant Professors: Lauer, Von Brock, Duhosch, Mills, Saladino, Morgan (adjunct).

Instructors: Smothers, Reckmeyer, Kittridge.

Lecturers: LeBoutillier, Sheng.

1. Fundamentals of Perception and Design (4)

Lectures and studio experiments concerned with perception of human environment. Techniques of manipulation of stimuli of perception and design. Primarily concerned with two-dimensional studies in black and white.

2. Fundamentals of Perception and Design (4)

Continuation of 1. Primarily concerned with the study of color. Prereq: 1 and 41 or perm.

3. Fundamentals of Perception and Design (4)

Continuation of 1 and 2. Primarily concerned with study of three-dimensional design. Prereq: 2 and 42 or perm.

41. Design Communication (2)

Introduction to principles of projection drawing as a tool for description and analysis and for solving problems in spatial organization. Theory and practice of orthographic drawing.

42. Design Communication (2)

Continuation of 41, with axonometric drawing and theory of space and shadow. Prereq: 41 or perm.

43. Design Communication (2)

Principles and practices of "one-point", "two-point" and "three-point" perspective drawing. Prereq: 42 or perm.

51. Introduction to Architecture and Design (1)

Development of an understanding of architecture and design and their role in society. Clarification of extent and purpose of education in these fields. Open to all students and required of architecture majors.

52. Introduction to Architecture and Design (1)

Continuation of 51. Open to all students and required of architecture majors.

53. Introduction to Architecture and Design (1)

Continuation of 52. Open to all students and required of architecture majors.

97. Freehand Drawing (1-3, max. 12)

Additional training in freehand drawing in various media. Prereq: perm.

151. History of Architecture (3)

Egypt, Greece, Rome and the Middle Ages. Not open to students of architecture.

152. History of Architecture (3)

Renaissance, Baroque and Early American. Not open to students of architecture.

153. History of Architecture (3)

Nineteenth and twentieth century European and American history of architecture. Not open to students of architecture.

195. Problems in Environmental Design (1-3)

Supervised group or individual projects in environmental design. Prereq: perm.

201. Elementary Environmental Design (4)

Survival values of structures as evidenced by forms found in natural growth systems, including crystals, with application of structural principles to performance of selected classes of materials to manmade structures (not necessarily architectural). Deals with structural fundamentals and seeks to examine perceptual values inherent in various systems. Prereq: 3 and 43 or perm.

202. Elementary Environmental Design (4)

Synthesizes the studies of previous fundamental courses to the service of programs for specified human uses. Visual, spatial and structural programming studied as coordinated components of architectural environment for human activity. Prereq: 201.

203. Elementary Environmental Design (4)

Continuation of 202 with increased attention to design of details. Prereq: 202.

222, 223. Basic Industrial Design (3, 3)

Introduction to history, philosophy and practices of industrial design profession; development of exploratory design concepts related to space, movement and form; emphasis on design theory and creative thinking. Prereq: 201 or perm.

233. Lettering (3)

Studio production of basic lettering styles. Applications in production of posters, book jackets, trademarks, etc. Prereq: 102 or Art 101.

234. Advanced Lettering (3)

Professional lettering techniques including elementary advertising production (Keyline and color separation drawings). Prereq: 233.

241. Design Communication (2)

Continuation of 43. Techniques of graphic delineation, model making, verbal description, etc., as a means of presenting design ideas. Primarily concerned with rendering in black and white media. Prereq: 43 or perm.

242. Design Communication (2)

Continuation of 241. Primarily concerned with rendering in color media. Prereq: 241 or perm.

243. Design Communication (2)

Continuation of 242. Presentation techniques: model making methods, brochure layout, charts, graphs and oral presentation of design material. Prereq: 242 or perm.

251. History of Environmental Design (3)

Architecture of Greece and Rome and the Ancient Near East, including Egypt, Mesopotamia, and Crete. Required of students of architecture. Prereq: 3 or perm.

252. History of Environmental Design (3)

Architecture of Western Europe from early Christian and Byzantine to Romanesque and Gothic. Required of students of architecture. Prereq: 251 or perm.

253. History of Environmental Design (3)

European architecture from the 15th through the 18th centuries. Required of students of architecture. Prereq: 252 or perm.

261. Construction Methods (3)

Materials and methods, both conventional and contemporary types, as utilized in building construction. Prereq: perm.

262. Mechanical and Electrical Equipment (3)

Study and design of heating, ventilating and air-conditioning systems. Prereq: Phys. 5 or perm.

263. Mechanical and Electrical Equipment (3)

Study and design of acoustical, electrical, lighting, plumbing and water supply systems. Prereq: 5 or perm.

281. The Environmental Design Professions (0)

Lectures, mainly by guest speakers, on cultural and professional subjects, with discussion moderated by the speaker. Required of all sophomores.

282. The Environmental Design Professions (0)

Continuation of 281. Required of all sophomores.

283. The Environmental Design Professions (0)

Continuation of 282. Required of all sophomores.

295. Problems in Environmental Design (1-3)

Group or individual problems in environmental design. Prereq: perm. and sophomore rank.

301. Architectural Design (6)

Concerned with development of an analytical approach to formulation of objectives and criteria for environmental problems, and envelopment of design solutions based on these objectives and criteria. Prereq: 203, 243, or perm.

302. Architectural Design (6)

Continuation of 301. Prereq: 301.

303. Architectural Design (6)

Continuation of 302. Prereq: 302.

311, 312, 313. Interior Design Problems (3, 3)

Design of residential and commercial interiors. Prereq: 203 and 243.

314, 315. Furniture Design and Construction (3, 3)

Esthetic and technical considerations in design of seating and case units; developments of know-how with regard to large scale construction. Prereq: 203, 243.

321, 322, 323. Industrial Design (4, 4, 4)

Basic design projects involving the human factor, structure and form, and materials and procedures; emphasis on design exploration and presentation of product and transportation design problems. Prereq: 233 or perm.

324, 325, 326. Design Materials (3, 3, 3)

For design majors; exploration of basic design materials and processes, involving problems in paper, wood, metal, plastics; three-dimensional surface development, clay modeling, and model construction. Prereq: 201 or perm.

331, 332, 333. Advertising Design (4, 4, 4)

Studio problems in direct mail, display, packaging and space advertising. Introduction to current presentation techniques and materials. Must be taken in sequence. Prereq: 234 or with 234.

351. History of Environmental Design (3)

American architecture from the 17 century to the emergence of the Chicago School. Required of students of architecture. Prereq: 253 or perm.

352. History of Environmental Design (3)

Western European Classicism, Neo-Gothicism and Romanticism. Required of students of architecture. Prereq: 351 or perm.

353. History of Environmental Design (3)

American and European contribution to contemporary architecture. Required of students of architecture. Prereq: 352 or perm.

354. History and Theory of Interior Design (3)

Objective: to acquaint interior design students with a current design philosophy and history of period design and decoration. Means: lecture-discussion with slide presentations and independent research of period furnishings. Prereq: 203 and 243 or perm.

361. Statics (3)

Composition of force systems, forces in equilibrium, mathematical and graphical analysis. Prereq: equiv. of Math. 16 and Phys. 5.

362. Statics (3)

Continuation of 361. Shear and Bending moment diagrams, centroids and moments of inertia. Prereq: 361.

363. Strength of Materials (3)

Stresses and strains; torsion; stresses in beams; beam deflections; combined loading; columns. Prereq: 361 and 362.

381. The Environmental Design Professions (0)

Continuation of 283. Required of all juniors.

382. The Environmental Design Professions (0)

Continuation of 381. Required of all juniors.

383. The Environmental Design Professions (0)

Continuation of 382. Required of all juniors.

384. Research and Programming (2)

Seminars and exercises concerned with development of techniques of information theory, decision theory and problem solving theory as applied to environmental problems. Prereq: 201 and 241.

385. Research and Programming (2)

Continuation of 384. Prereq: 384.

386. Design Cybernetics (2)

Seminars and exercises concerned with uses of cybernetics in environmental problems. Prereq: perm.

395. Problems in Environmental Design (1-3)

Supervised group or individual projects in environmental design. Prereq: perm., junior rank.

396. Construction Workshop (1-10)

Would be an elective under the 2-2-2 plan for architecture. Group projects in actual construction of design projects. Prereq: junior rank in architecture or perm.

397. Freehand Drawing (1-3, max. 12)

Offered primarily for additional training in freehand drawing, use of various media, or for improvement of an already attained facility. Will follow a specific outline of progressive studies, with opportunity for students to devote special attention to particular aspects wherever this seems advisable. Prereq: junior rank in architecture or perm.

398. Individual Problems in Perception and Design (1-3)

Tutorial course for those students with advanced standing who wish to study further the aspects of perception as they relate to design. Prereq: junior rank in architecture or perm. See also 498.

401. Architectural Design (6)

Continuation and extension of 303. Deals with architectural components of urban environment and is extended both in terms of scale and complexity. Student encouraged to incorporate information gathered in allied courses (such as history, programming, sociology, structures, etc.) in his design solutions. Presentation techniques form an integral part of design course. Normally concurrent with 471, 472 and 473. Prereq: 303.

402. Architectural Design (6)

Continuation of 401. Prereq: 401.

403. Architectural Design (6)

Continuation of 402. Prereq: 402.

404. Architectural Design (5)

Continuation and extension of all previous design courses. Problems increased in depth, scale and complexity. Emphasis on philosophical, moral, ethical and spiritual aspects of architectural design. Prereq: 403.

405. Architectural Design (5)

Continuation of 401. Prereq: 401.

409. Bachelor of Architecture Thesis (8)

Single large-scale complex design problem carried in detail to a significant conclusion. Prereq: 405 and perm.

411, 412, 413, 414, 415. Advanced Interior Design (3, 3, 3, 3)

Comprehensive interior design problems at both small and large scale. Prereq: 313, 315.

421, 422, 423. Advanced Industrial Design (4, 4)

Advanced design exploration; emphasis on developmental research, conceptual design investigation, and formal presentation of professional design solutions. Prereq: perm.

424, 425, 426. Design Research (3, 3, 3)

Advanced problems of theory and practice involving directed research methods, conceptual systems design and development projects, and formal presentation techniques. Prereq: perm.

431, 432, 433. Advanced Advertising Design (3, 3, 3)

Advanced projects, including small campaigns and corporate image development. Prereq: 333 or perm.

434, 435, 436. Advertising Design Research (3, 3, 3)

Independent problems in selected areas of advertising design. Prereq: 433 or with senior sequence. Note: Should be met as a class, but until additional staff is available, must be met on an arranged basis.

454. Seminar on Ideas in Design (2)

Examination of esthetics and relationships of philosophic thought to design. Prereq: 401, perm.

455. Seminar on Ideas in Design (2)

Continuation of 454. Prereq: 454.

461. Structural Design in Steel (3)

Study and design of steel framing. Design of beams, columns, connections, trusses and plate girders. Prereq: 361, 362 and 363.

462. Structural Design in Wood (3)

Study and design of wood framing in buildings. Design of beams, columns, connections, trusses and plywood construction. Prereq: 361, 362 and 363.

463. Structural Design in Concrete (4)

Study and design of concrete framing in buildings. Design of beams, columns, floor slabs, retaining walls, and footings. Prereq: 361, 362 and 363.

464. Advanced Structures (3)

Lectures concerned with development of understanding of philosophy of structures and intuitive feeling for structure as a design determinant and methods of analyzing complex structures. Prereq: 463.

471. History and Principles of Urban and Regional Planning (4)

Examination of history of urban planning and design and contributions of various historic plans to the planning process. Need for planning. Significance and functions of urban and regional spaces; considerations that have determined their establishment, fixed their locations, and accounted for their rise and fall; emphasis on social, political, economic and technological forces at work; factors determining population and land use and their location and distribution forming urban pattern. Market economy, planning and urban land policy as functions of government. Prereq: elementary environmental design, 201, 202, 203; senior rank and perm.

472. Metropolitan and Regional Planning (4)

Planning objectives and solutions, procedures, esthetic amenities, urban design; master plan, zoning; subdivision regulations; planning techniques for residence, education, recreation, commerce, industry, transit and transportation; circulation and utilities; theory and practice of regional planning. Examination of levels of planning in relation to levels of government. Plan implementation. Prereq: 471 and perm.

473. Planning and Development of Urban Environment (4)

Investigation of components of urban environment with emphasis on comparative method being utilized in studying historical and present examples of urban design. Other techniques of analysis investigated and utilized in evolving man's relationship to his social, economic, intellectual, emotional and physical environment. Prereq: 471, 472.

481. The Environmental Design Professions (0)

Lectures, mainly by guest speakers, on cultural and professional subjects, with discussion moderated by the speaker. Required of all seniors.

482. The Environmental Design Professions (0)

Continuation of 481. Required of all seniors.

483. The Environmental Design Professions (0)

Continuation of 482. Required of all seniors.

484. Seminar in Professional Practices (3)

Seminar in techniques and responsibilities of professional practice. Prereq: Fifth yr. rank or perm.

499. Readings in Environmental Design (1-3, max. 12)

Independent study and reading together with discussion conducted by students with students and for students. Faculty members will work with individual students to direct study and readings. Organized around a central topic of interest to individual student. Prereq: Graduate standing or perm.

ART HISTORY

234, 235, 236. Introduction to the Motion Picture (3, 3, 3)

Course duration: 3 quarters. Examination of basic motion picture structure; survey of various genera (dramatic, documentary, "experimental," implemental); exercise in film analysis and criticism. Weekly screenings. 3 lec. Prereq: 233.

330. Greek Art (3)

Course duration: one quarter. Specific developments in period between Minoan/Helladic Cultures and those of the Alexandrian Empire. Undergraduate art history major; elective for "Humanities".

331. Roman Art (3)

Course duration: one quarter. Undergraduate art history major; elective for "Humanities". Studies of motifs and concepts ranging from Etruscan artifacts through Hellenistic to advent of Constantine.

332. Medieval Art (3)

Course duration: one quarter. Undergraduate art history major; elective in "Humanities". Painting and sculpture from time of Constantine to that of Giotto.

333. Italian Renaissance Art (3)

Course duration: one quarter. Studies of monuments, motifs, and their implications in Quattrocento Italy. Undergraduate art history major; elective in "Humanities".

334. Northern Renaissance Art (3)

Course duration: one quarter. Studies in arts of northern Europe to 1530. Undergraduate art history major; elective in "Humanities".

335. Art of High Renaissance and Mannerism (3)

Course duration: one quarter. Studies in art and theory of the Cinquecento. Undergraduate art history major; elective in "Humanities".

337, 338. History of Photography (3, 3)

Course duration: two quarters. History of photography. The study of history of develop-

ment of photography as an art, a science, and an industry. Study of leading photographers and their contributions to development of the art. 3 lec. Prereq: 233.

339. The Arts of the United States (3)

Course duration: one quarter. Specific problems and their patterns from Colonial Era. Undergraduate art history major: elective in "Humanities".

340. The Arts of the Orient (3)

Course duration: one quarter. Selected studies in Arts of India, China, and Japan. Undergraduate art history major; elective in "Humanities".

341. Pre-Columbian Art (3)

Course duration: one quarter. Arts of early Mexico, Middle and South America. Undergraduate art history major; elective in "Humanities".

342. African Art (3)

Course duration: one quarter. Artifacts of tribes of the Niger and Congo Basins and their relationships. Undergraduate art history major; elective in "Humanities".

343. Ancient Near Eastern Art (3)

Course duration: one quarter. Motifs and monuments of Egypt, Mesopotamia, Assyria, and Babylonia. Undergraduate art history major; elective in "Humanities".

344. Art of the Nineteenth Century (3)

Course duration: one quarter. Arts and their development during and after Industrial Revolution. Undergraduate art history major; elective in "Humanities".

345. Modern Art (3)

Course duration: one quarter. Specific movements and artists since 1900. Undergraduate art history major; electives in "Humanities".

481. Individual Reading (1-3)

See title of course. Offered every quarter.

ASTRONOMY

Professor: Goedcke.

111. Elementary Astronomy (3)

Apparent motions of sun, moon, planets, and stars. Relations between apparent positions of celestial objects and time, latitude, and longitude of the observer. Applications to time determination, surveying, and navigation. Prereq: mathematics through trigonometry. (Fall quarter) *Goedcke*

112. The Solar System (3)

Physical properties of sun, moon, planets, comets, meteors, and meteorites. Atmospheres, temperatures, and surface conditions of other planets. Origin and evolution of the planets. Prereq: elementary physics, and mathematics through trigonometry. (Winter quarter) *Goedicke*

113. Stars and Galaxies (3)

Methods of studying sizes, temperatures, densities, and compositions of stars and nebulae. Physical properties of our galaxy. Physical properties of other galaxies and their arrangement in space. Theories of origin and evolution of the stars and galaxies. Prereq: 112. (Spring quarter) *Goedicke*

115. Astronomy Laboratory (1)

Observational work at the telescope. Computations of coordinates of celestial objects. Practice with marine sextant and aviation octant. Solution of navigation problems. Prereq: 111 or with 111. (Fall quarter) *Goedicke*

116. Astronomy Laboratory (1)

Observational work at the telescope, with emphasis on moon and planets. Measurement of astronomical photographs and spectrograms. Reduction of astronomical data. Prereq: 112 or with 112. (Winter quarter) *Goedicke*

117. Astronomy Laboratory (1)

Observational work at the telescope, with emphasis on stars, nebulae and galaxies. Measurement of stellar spectrograms for determination of radial velocity. Spectroscopic measurement of velocities of recession of galaxies and quasars. Prereq: 113 or with 113. (Spring quarter) *Goedicke*

135. Elements of Navigation (2)

Basic navigational astronomy; use of sextant and nautical almanac; Line of Position Method as used in air and surface navigation. Prereq: mathematics through trigonometry. (Given upon sufficient demand.) *Goedicke*

211. Celestial Mechanics (4)

Differential equations of planetary motion; vector treatment of two-body problem; determination of orbits of planets and satellites. Prereq: differential equations. (Once yearly) *Goedicke*

AUDIOLOGY

See Communication.

AUDIO-VISUAL EDUCATION

See p. 227.

AVIATION

Chief Instructor: Fuller (director).

Instructors: Conner, Griffith, Hoffman, Mace, Simpson, Walter, Wheeler, Ziegler.

110. Primary Ground Instruction (3)

Ground instruction covering aerial navigation, meteorology, Federal Aviation Regulations. Radio. Aircraft construction and preference data. Covering all material required by FAA on Private Pilots Written Examination. 3 lec.

111. Primary Flight Instruction (4)

Flight training and related lectures including primary flight maneuvers and cross country flying. FAA requirements for a Private Pilot Certificate will be included. 2 lec., 7 lab. Prereq: 110 and perm. Course fee \$350.00.

121-122. Secondary Flight Instruction (2-2)

Dual flight instruction and solo practice designed to increase proficiency of private pilots. To standards required for Commercial Pilots Certificate. 40 hrs. of flight including cross country, night and instrument instruction. 6 lab. Prereq: 111 or private license, perm. Course fee \$385.00.

211-212. Instrument Flight Instruction (2-2)

Instruction of flight by sole reference to instruments. Departures, inroute navigation, VOR, ADF and ILS instrument approaches, cross country emergency procedures, and radio procedures. 6 lab. Prereq: Commercial Pilots Certificate or equiv., experience and perm. Course fee \$385.00. (Spring and Summer quarters)

BACTERIOLOGY

See Zoology.

BIOLOGY

See General Studies.

BOTANY

Professor: Wistendahl (chairman).

Associate Professors: Bickle, Cohn, Gambill, Miller, Vermillion, Wallace.

Assistant Professors: Anway, Graffius, Jaffe, Larson, Reighard, Ungar.

Lecturer: Straight.

The major requirement for the A.B. degree is a minimum of 36 hours in departmental courses, and for the B.S. degree, 45 hours. To satisfy the first-year general botany

requirement a student may pursue any *one* of the following sequences: Bot. 4, 5, 6; Biol. 1, Bot. 5, 6; Biol. 1, 2, Bot. 5, 6; Biol. 1, 2, 3, Bot. 5. In addition, courses in the following areas are required; more than one quarter in each area is recommended: Ecology (320 or 321), Morphology (110), Physiology (260 and 261), Cytology (330) and Taxonomy (170), plus 491 or 492, with at least 9 hours in courses numbered above 300.

Non-departmental courses required are Chem. 10, 11, 12 and 201, Zool. 120 and at least one quarter of mathematics beyond algebra and geometry, preferably calculus and/or analytical geometry. At least one quarter of physics is strongly recommended, as is Chem. 202.

4. General Botany (4)

Cell and its parts; cell division; plant body: root, stem, leaf, flower, fruit, seed; plant growth. 3 lec., 2 lab. (Fall and Winter quarters)

5. General Botany (4)

Cellular physiology, mineral nutrition, water relations, photosynthesis, respiration, meiosis, genetics, ecology. Prereq: 4 or Biol. 1. 3 lec., 2 lab. (Winter and Spring quarters)

6. General Botany (4)

Survey of plant kingdom. 3 lec., 2 lab. (Spring quarter)

103. Forest Management (3)

Management of forest land, silviculture and identification, marketing and utilization of chief lumber species of Ohio. Prereq: 4, 5, 6, 2 lec., 2 lab. (Fall and Spring quarters)
Straight

104. Readings in Botany (1)

Readings in botanical literature designed to broaden student's interest and increase his knowledge. One report and discussion meeting each week. Prereq: Completion of one of the sequences of general botany and/or biology as given under general requirements or under Biology 3. (Fall and Spring quarters)

110. Fundamental Plant Morphology I (3)

Comparative studies of morphology and life cycles of fresh-water and marine algae, with emphasis on evolutionary relationships. Prereq: 6 or Biol. 3. 2 lec., 2 lab. (Fall quarter)
Graffius

111. Fundamental Plant Morphology II (3)

Comparative studies of morphology and life histories of mosses, liverworts, and ferns. Prereq: 110. 2 lec., 2 lab. (Winter quarter)
Reighard

112. Fundamental Plant Morphology III (3)

Comparative studies of morphology and life histories of gymnosperms, and angiosperms. Prereq: 110, 111, or 210. 2 lec., 2 lab. (Spring quarter) *Blickle*

120. Vegetation of North America (3)

Illustrated lecture course considering extensive plant formations with relationship to climate, soil, geographic formations, and influence of man. Prereq: 1 yr. of botany or biology. 3 lec. (Winter quarter) *Wistendahl*

140. Introduction to the Fungi (4)

Taxonomic and morphological study of some more common forms of fungi. Prereq: 6 or Biol. 3. 3 lec., 3 lab. (Fall quarter) *Vermillion*

170. Introductory Plant Taxonomy (4)

Identification and classification of flowering plants, with emphasis on family relationships. Prereq: 6 or Biol. 3. 3 lec., 2 lab. (Winter quarter) *Anway, Gambill*

171. Field Taxonomy (3)

Collection and identification of flowering plants, with emphasis on native flora in laboratory and field studies. Prereq: 6 or Biol. 3. 2 lec., 2 lab., 2 Sat. field trips. (Spring quarter) *Anway, Gambill*

210. Plant Anatomy (4)

Comparative structure and systematic anatomy of vascular plants. Prereq: 4 or Biol. 3. 3 lec., 3 lab. (Fall quarter) *Blickle*

213. Microtechnique (4)

Principles and methods of preparing all kinds of plant tissues for microscopic study; photomicrographic and electron microscopic practices are included. Prereq: 140 or 210. 2 lec., 3 lab. (Spring quarter, 1968-69) *Blickle, Reighard*

242. Plant Pathology Theories and Methods (3)

Basic concepts concerning plant diseases and methods of isolation, culturing and inoculation, using various types of pathogens. Prereq: 140. 2 lec., 2 lab. (Winter quarter, 1968-69) *Vermillion*

243. Plant Pathology (3)

Nature, causes, economic importance and controls of some important diseases of cultivated crops. Diseases studied will illustrate various types of pathogens or other causal factors. Prereq: 242. 2 lec., 2 lab. (Spring quarter, 1968-69) *Vermillion*

250. Fresh-Water Algae (4)

Classification, structure, relationships, and life histories of freshwater algae, with emphasis on identification of common or representative genera. Prereq: 6 or 110. 2 lec., 4 lab. (Spring quarter) *Graffius*

260. Plant Physiology: Water Relations and Growth (3)

Plant cell structure and function; water relations including diffusion, osmosis, transpiration, translocation, absorption and stomatal functions; mineral metabolism and growth. Prereq: 1 yr. of college chemistry (organic chemistry is also suggested); 1 yr. of botany or its equiv. 2 lec., 2 lab. (Fall quarter) *Larson, Wallace*

261. Plant Physiology: Metabolism (3)

Photosynthesis, respiration, nitrogen metabolism and growth. Prereq: 1 yr. of college chemistry (organic chemistry is strongly suggested); 1 yr. of botany or its equiv. 2 lec., 2 lab. (Winter quarter) *Larson, Wallace*

270. Dendrology (4)

Collection, identification and classification of native and introduced woody plants in summer and winter conditions. Prereq: 6 or Biol. 3. 3 lec., 2 lab., 2 Sat. field trips. (Fall quarter) *Gambill*

311. Paleobotany I (3)

Plant macrofossils and microfossils throughout geological time. Prereq: 110, 111, 112, or 210. 2 lec., 2 lab., 2 Sat. field trips. (Winter quarter, 1968-69) *Blickle*

312. Paleobotany II (3)

Plant macrofossils and plant microfossils throughout geological time. In part individual research in plant microfossils. Prereq: 311. 2 lec., 2 lab., 2 Sat. field trips. (Spring quarter, 1968-69) *Blickle*

318. Wood Technology (4)

Comparative microstructure and macrostructure of woods in application to identification of woods and wood products of economic importance. Prereq: 210 or 270. 3 lec., 2 lab., 3 Sat. field trips. (Winter quarter, 1967-68) *Blickle*

320. Plant Syncecology (4)

Study of natural plant communities. Prereq: 1 yr. of botany or equiv. and 270. 2 lec., 4 lab. (Fall quarter) *Wistendahl*

321. Plant Antecology (4)

Effect of environmental factors on species growth and distribution. Prereq: 1 yr. of botany or its equiv.; 260. 2 lec., 4 lab. (Spring quarter) *Ungar*

330. General Cytology (3)

Gross and fine structure of cells; mitosis; meiosis; morphology, chemistry, behavior of chromosomes; cytoplasmic constituents. Prereq: 5 or Zool 4; 1 yr. chemistry. 2 lec., 2 lab. (Fall quarter) *Cohn*

331. Cytochemistry (3)

Microscopic and biochemical technique applied to the study of cells and subcellular components; chemistry of the nucleus and cytoplasm. Prereq: 330; organic chemistry. 2 lec., 2 lab. (Winter quarter) *Cohn*

340. Mycology (3)

Deals with selected aspects of classification, life history, physiology, morphogenesis, reproduction, and inheritance of fungi. Prereq: 140 or perm. 2 lec., 2 lab. (Winter quarter) *Miller*

341. Aquatic Phycomycetes (2)

Classification, life history, morphology and physiology of aquatic phycomycetous fungi; laboratory techniques for collection, isolation, and pure culture of aquatic fungi. Prereq: 140 or perm. 1 lec., 2 lab. (Spring quarter) *Miller*

373. Advanced Field Taxonomy (3)

Systematics, nomenclature and classification of angiosperms through laboratory, field, and herbarium studies with emphasis on fall flora. Prereq: 171. 2 lec., 2 lab., 2 Sat. field trips. (Fall quarter, 1968) *Anway, Gambill*

400. Botanical Literature (1)

Introduction to botanical journals and other significant sources of information, experience in interpreting library filing systems and ways of finding desired reference materials. Prereq: 30 hrs. in botany.

432. Molecular Genetics (3)

Gene action and fine structure; biochemistry of heredity; cytoplasmic inheritance. Prereq: 330 or Zool. 120; organic chemistry. 3 lec. (Spring quarter) *Cohn, McQuate*

445. Forest Pathology (4)

Diseases of shade and forest trees, their cause, economic importance, prevention and control. Prereq: 242. 3 lec., 3 lab. (Spring quarter, 1968) *Vermillion*

451. Phycology I (3)

Identification, classification, relationships, and ecology of fresh-water and marine algae, with emphasis on phytoplankton. Prereq: 250; 110 or similar introductory course in algal morphology is recommended. 2 lec., 2 lab. (Fall quarter, 1967-68) *Graffius*

452. Phycology II (3)

Classification, relationships, morphology, physiology, and economic importance of freshwater and marine algae. Prereq: 250; 260 or 261 and 451 recommended. 2 lec., 2 lab. (Winter quarter, 1967-68) *Graffius*

464. Radioisotope Methodology (3)

Characteristics of ionizing radiation; detection of radioactivity; sample preparation. Prereq: 1 yr. each of general chemistry and physics. 2 lec., 2 lab. (Winter quarter) *Larson*

465. Tracer Techniques (3)

Experiments elucidating path of carbon in photosynthesis, sucrose synthesis, mineral uptake will be carried out. Individual research projects are assigned. Prereq: 464 or 564. (261 or 561 suggested) 2 lec., 2 lab. (Spring quarter, 1968) *Larson*

472. Taxonomy of Bryophytes (4)

Identification, nomenclature, and classification of bryophytes through laboratory and field studies. Prereq: 170, 111. 2 lec., 4 lab., 2 Sat. field trips. (Spring quarter, 1968) *Gambill*

491, 492. Seminar in Botany (1, 1, max. 2)

Required of all undergraduate majors for at least one quarter. Presentation by students of papers or reports based upon personal research or readings from botanical literature. Prereq: 24 hrs. in the department. (Fall and Winter quarters)

493. Undergraduate Research (2-4, max. 6)

Opportunity to gain experience in performing, and recording in acceptable written form, minor research in areas of their special interest. Prereq: 24 hrs. of departmental courses and perm.

BUSINESS ADMINISTRATION

Professors: Evarts, French (chairman).

Associate Professor: Walton.

Assistant Professors: Blanchard, Day.

11. History of American Business (3)

Origins and development of business, with principal emphasis on American experience. Changes in economic, social and political environments of business, and dynamic role of business in creating and adapting to environmental change.

455. Studies in Business History (3)

Case studies of business men and firms since the Middle Ages, with principal emphasis on American experience. Special attention is

paid to ways in which businessmen have affected economic, social and political organization and to implications of business experience for sound business policy.

BUSINESS AND INDUSTRIAL COMMUNICATIONS

Associate Professor: Spataro (chairman).

Assistant Professor: Rutkoskie.

Instructor: Sager.

Part-Time Instructors: Hopkins, Penrose.

220. Business and Industrial Communications I (3)

Application of communication principles to current business situations. Emphasis on research methodology, organization and interpretation of data, and report writing. Prereq: Eng. 80.

320. Business and Industrial Communications II (3)

Application of communication principles to current business situations. Emphasis on memorandums, letters, policy statements, procedures. Prereq: 220.

420. Business and Industrial Communications III (3)

Application of communication principles to current business situations. Emphasis on integrative nature of communication function in business and industrial environment. Written cases. Prereq: 320.

430. Information Management (3)

Analysis of basic data processing activities, rhochrematics, information flows in business organizations within a total systems framework. Systems analysis, cases, and individual research problems. Prereq: Mgt. 300 or perm.

481. Research in Business and Industrial Communications (2-6)

Prereq: 320 and perm.

BUSINESS LAW

Professor: Howard.

Associate Professor: Kloss (chairman).

Assistant Professor: Marinelli.

355. Legal Environment of Business I (3)

Environmental approach to law of contracts including structure of American legal system. Prereq: junior or senior rank. *Howard, Kloss, Marinelli*

356. Legal Environment of Business II (3)
 Law of commercial paper and sales under Uniform Commercial Code. Prereq: 355.
Howard, Kloss, Marinelli

357. Legal Environment of Business III (3)
 Environmental approach to study of law of business associations, including agency, partnerships and corporations. Prereq: 355.
Howard, Kloss, Marinelli

442. Law of Real Estate (3)
 Property law as an institution and analysis of creation, transfer and relationship of various legal interests in land. Prereq: 356 or perm.
Howard, Kloss, Marinelli

462. Law of Estates and Trusts (3)
 Law as it pertains to decedent's estates including law of wills, intestate succession and trusts. Prereq: 356.
Howard, Kloss, Marinelli

475. Government and Business (3)
 Study of governmental regulatory environment of business including analysis of statutes, court decisions and rulings affecting policy decisions. Prereq: 355 or perm.
Howard, Kloss, Marinelli

481. Research in Law (1 to 8)
 Prereq: 27 hrs. of business administration including 357 and perm.

CHEMISTRY

Professors: Clippinger, Day, Eblin, Huntsman (chairman), Ingham, Kline, Paudler, Sympson.
Associate Professors: Clearfield, Tong, Westenbarger, Winkler.
Assistant Professors: Breivogel, Hendrick, Houk, Jewett, Latz, Pfeiffer.

A student who completes the requirements for the B.S. degree with a major in chemistry is eligible for professional status in the American Chemical Society in the minimum period of two years of professional experience after graduation. Completion of the minimum requirements for the A.B. degree with a major in chemistry does not qualify a student for certification to the Society.

The major requirement for the B.S. degree includes General Chemistry and Qualitative Analysis; Chemistry 100; 205-206-207; 208-209; 326-327; 353-354-355; 356-357; 400; 427; 476; and three additional hours above 300. Extra-departmental requirements include Mathematics 163B and Physics 115, which should be completed by the end of the second year.

The major requirement for the A.B. degree includes General Chemistry and Qualitative Analysis; Chemistry 100; 326-327; 201-202 or 205-206-207; 203-204 or 208-209; 351 or 353-354-355; 476. A full year's work is required in at least one of the following fields: Analytical 326-327, 427); Organic (205-206-207); or Physical (353-354-355).

Students having foreign language requirements should take German, including Scientific German. Those anticipating graduate study should obtain a reading knowledge of German and Russian, or German and French. Details of the M.S. and Ph.D. programs are given in the Graduate Bulletin.

10-11-12. General Chemistry and Qualitative Analysis (4-4-4)

Introduction to the basic principles and concepts of chemistry. Laboratory work in 12 is devoted to separation and identification of cations and anions by methods illustrating the principles of equilibrium and solubility relations. 3 lec., 3 lab. Prereq: high school algebra.

H90-H91. Honors Chemistry (4-4)

For students with superior training in high school science and mathematics. Satisfies University College requirement of 1 yr. of laboratory science. 3 lec., 3 lab. Prereq: high school algebra, physics, chemistry and qualification by examination.

100. Chemical Calculations (2)

Stoichiometry, mole concept, equation writing and chemical equilibrium. Required of chemistry majors. 2 lec. Prereq: 11 or H91.

201-202. Organic Chemistry (3-3)

Introductory course in organic chemistry designed for students who are not B.S. majors in chemistry. Prereq: 12 or H91.

203-204. Organic Chemistry Laboratory (1-2)

Elementary organic chemistry laboratory designed for students who are not B.S. Chemistry majors. 3 lab. in 203 and 6 lab. in 204. Prereq: 201 or 205, or with 201 or 205.

205-206-207. Organic Chemistry (3-3-3)

Comprehensive course in organic chemistry for chemistry majors and other students wishing to acquire a sound knowledge of modern organic chemistry. Prereq: 12 or H91.

208-209. Organic Chemistry Laboratory (2-2)

Laboratory course in organic chemistry which involves synthesis, purification, and characterization of organic compounds. 6 lab. Prereq: 206 or with 206.

226. Quantitative Analysis (5)

Introductory course in analytical chemistry for students not majoring in chemistry. 3 lec., 6 lab. Prereq: 12 or H91.

326-327. Quantitative Analysis (4-4)

For chemistry and chemical engineering majors. Includes gravimetric and volumetric methods of analysis, and an introduction to instrumental methods of analysis. 2 lec., 6 lab. Prereq: 12 or H91; 100.

351. Physical Chemistry (4)

For students in premedicine and comprehensive science, and A.B. Chemistry majors. Prereq: 18 hrs. of chemistry; Math. 60C or 63C.

353-354-355. Physical Chemistry (3-3-3)

Topics include kinetic theory, structure of matter, thermodynamics, chemical equilibrium, solutions, and rates of reactions. Prereq: 12 or H91, Math. 163B, Physics 115.

356-357. Physical Chemistry Laboratory (2-2)

6 lab. Prereq: 351 or 353 for 356; 353, 356 for 357.

381. Undergraduate Research (2-3)

Independent work for qualified upperclass chemistry majors. Prereq: junior or senior rank with B average in chemistry.

400. Qualitative Organic Analysis (5)

Separation and identification of organic compounds by classical and modern methods. 3 lec., 6 lab. Prereq: 207, 209.

402. Spectroscopic Methods in Organic Chemistry (3)

Designed to acquaint students with modern spectroscopic methods as employed in organic chemical research, NMR, IR, UV, ESR, and Mass Spectrometry. Prereq: 207, 355.

403. Advanced Organic Chemistry (3)

Advanced course in organic chemistry dealing primarily with stereochemistry and reaction mechanisms. Prereq: perm.

420. Chemical Literature (3)

Introduction to chemical literature in journals, handbooks, monographs, and patents. Prereq: 24 hrs.; reading knowledge of German.

426. Advanced Analytical Chemistry (4)

Lecture course in classical analytical chemistry. Prereq: 355.

427. Instrumental Methods of Analysis (5)

Methods of instrumental analysis: potentiometry, voltammetry, coulometry, emission and absorption spectroscopy, X-ray methods, chromatography. 3 lec., 6 lab. Prereq: 351 or 353.

428. Chemical Instrumentation (4)

Survey course in fundamentals of electronics emphasizing circuitry in modern chemical instruments. 3 lec., 3 lab. Prereq: 355.

451. Chemical Thermodynamics (3)

Prereq: 355.

461. Introductory Quantum Chemistry (4)

Prereq: 355.

476. Modern Inorganic Chemistry (4)

Survey of modern inorganic chemistry. Prereq: 351 or 353 or with 351 or 353.

477. Synthetic Methods of Inorganic Chemistry (2-3)

Theoretical principles and practices of synthesis, purification and characterization of inorganic substances. 1 lec., 3-6 lab. Prereq: 476.

479. Radiochemistry (4)

Introductory course in the application of isotopes to problems in chemistry; safe handling of radioactive materials; detection and determination of radiation. Prereq: 226 or 327.

CLASSICAL LANGUAGES**GREEK****LATIN**

Professor: Murphy (chairman).

Instructors: Eaton, Hultgren.

Two types of courses are offered: (1) courses in the Greek and Latin languages in the original; (2) courses requiring no knowledge of the original languages.

The requirement for the major in Latin for the A.B. degree is a minimum of 39 hours above courses 1-2-3, including courses 401 and 433.

A major in Greek is not offered, but Latin majors — especially those who are planning graduate study — are encouraged to take as much Greek as they can.

GREEK**1-2-3. Beginning Greek (4-4-4)**

Grammar, vocabulary, and reading of ancient Attic Greek. Completion after 2 yrs. h.s. Greek adds 12 hrs. to graduation requirement. *Eaton, Hultgren*

27. Greek Words in English (3)

Terms of Greek origin which provide a major part of the technical vocabulary of many cultural and professional fields. No knowledge of Greek required. No credit toward meeting the foreign language requirement for the A.B. or B.S. degree. (Fall and Winter quarters, 1967-68, and in most quarters thereafter) *Murphy*

101-102-103. Greek Prose and Poetry (3-3-3)

Review of language principles. Readings from Homer, Plato, Xenophon, and the New Testament. Passing 103 fulfills foreign language requirements of the College of Arts and Sciences for the A.B. degree. Prereq: 3. *Eaton*

409. Advanced Greek Readings (2-4, max. 18)

Selections from poets, dramatists, orators, philosophers, and historians. Prereq: 21 hrs. (As needed)

LATIN**1-2-3. Beginning Latin (4-4-4)**

Grammar, vocabulary, and reading. Completion after 2 yrs. h. s. Latin adds 12 hrs. to graduation requirement. *Eaton*

101-102-103. Intermediate Latin (4-4-4)

Review of h. s. Latin. Reading of such authors as Cicero and Vergil. Passing 103 fulfills foreign language requirements of the College of Arts and Sciences for the A.B. degree. Completion after 4 yrs. h. s. Latin adds 12 hrs. to graduation requirement. Prereq: 3; or 2 or 3 yrs. h. s. Latin. *Murphy*

251, 252, 253. Latin Prose and Poetry (3, 3, 3)

Review of essential Latin. Reading of Cicero's essays, a play of Plautus or Terence, Horace's *Odes* and *Epodes*. Prereq: 103, or 4 yrs. h. s. Latin, or 3 yrs. h. s. Latin and perm. *Eaton*

364. The Teaching of High School Latin (3)

Content of the high school Latin course and methods of teaching Latin in high school. Prereq: 103 (As needed) *Murphy*

401. The Life of the Romans (3)

Family, house, transportation, public amusements, and related features. Illustrations from archaeological evidence. Prereq: 12 hrs., or 12 hrs. of history and antiquities. No knowledge of Latin required. (Winter quarter, 1967-68 and as needed) *Hultgren*

411, 412, 413. Latin Literature of the Republic (3, 3, 3)

Selections from works of Plautus and Terence, Caesar, Cicero, Lucretius, Catullus, and Sallust. Prereq: 253 or equiv. (1969-70)

415, 416, 417. Latin Literature of the Early Empire (3, 3, 3)

Selections from works of Vergil, Horace, Livy, Ovid, Martial, Tacitus, Juvenal, and Pliny the Younger. Prereq: 253 or equiv. (1967-68)

419, 420, 421. Readings in Latin Literature (3, 3, 3)

Selections chosen to complement students' other readings in Latin literature. Prereq: 253 or equiv. (1968-69)

433. Advanced Latin Syntax (3)

Writing of Latin prose. Prereq: 253 or equiv. (Spring quarter, 1967-68 and as needed) *Murphy*

440. Special Work in Latin (2-6, max. 12)

Specialized work in selected phases of classical study. Prereq: 253 or equiv. (As needed)

COMMUNICATION**INTERPERSONAL COMMUNICATION****RADIO-TELEVISION****SPEECH PATHOLOGY, AUDIOLOGY****AND SPEECH SCIENCE**

Professor Kantner, Director

The School of Communication offers courses in the arts and sciences of speech communication in the three departments listed above, each with its own chairman and faculty. Five majors are available in general speech, general speech, organizational communication, radio-television and speech pathology, audiology and speech science. The majors in speech education and speech pathology, audiology and speech science may be taken either in the College of Fine Arts or the College of Education or the College of Arts and Sciences. The remaining majors are available only in the College of Fine Arts.

The specific course requirements for these various majors are listed in the Colleges and Curricula section of the bulletin under COLLEGE OF FINE ARTS.

Studies in the scientific and artistic bases of oral communication and in communication theory are enriched and applied through laboratory experience in various co-curricular programs. Those interested in group communication and public address may study the problems of communication at first hand in business, industrial, educational and other types of organizations in the Center for Communication Studies and in the Laboratory for Research in Persuasion and Propaganda. They may also participate in first-year debate,

varsity debate and inter-collegiate contests in oratory extemporaneous speaking and oral interpretation.

Practical on-the-air experience in radio and television is provided in the University radio station, WOUB-AM and FM and in the new television station, WOUB-TV. Experimental broadcasts of dramatic material are produced jointly by students in radio-television and theater.

A Speech and Hearing Clinic and Audiological Center which serve the needs of students and faculty in the University and of both children and adults in Southeastern Ohio offer excellent opportunities for experience in therapy for students in this area. Consultations concerning all types of speech disorders may be arranged with the director of the clinic. Remedial training is provided without charge to regularly enrolled students under the direction of a competent speech pathologist. The Audiological Center is equipped and staffed to test all types of hearing disorders, give auditory training and fit and evaluate hearing aids. A special clinic for children serves the Athens area. Nominal fees are charged for the examination or treatment of non-students. Research in speech science and audiology is implemented by a well-equipped laboratory with four associated sound-proof rooms.

The facilities of the Recording and Listening Laboratory are available daily to students in all areas of speech.

The School of Communication sponsors the following professional societies: Delta Sigma Rho-Tau Kappa Alpha (forensics), Alpha Epsilon Rho (radio-television), and Sigma Alpha Eta (speech and hearing therapy). These societies, and the co-curricular activities mentioned above, are described in greater detail in the student activities section of the catalog.

Excellence of scholarship and superior performance in speech are also recognized by a number of annual awards: the Lorin C. Staats award for scholarship and participation with distinction in one or more forensic areas; the Alice Newcomb scholarship based on academic achievement, character and campus citizenship for a student with sophomore standing or above who graduated from Athens High School, first preference, or from an Athens County High School; the Alpha Gamma Delta award to a senior girl in Speech Pathology and Audiology who goes on to graduate study; the Irma E. Voigt memorial award of Sigma Kappa to a senior girl for excellence in dramatic productions and the Francis McVicker Maxwell award to a junior or senior student for outstanding achievement in intercollegiate debate. "Talent" scholarships of approximately \$400 are available to high school seniors. These are based primarily

on demonstrated talent in the fields of radio-TV or forensics.

The following awards are available in radio-television:

1. The Jesse Zousmer foundation, created in memoriam to a former Ohio University student who was head of ABC Network News until his untimely death returning from Vietnam, provides funds for faculty and student documentary and public affairs productions.

2. The Richard Linke scholarship has recently been established to assist students in radio-TV performance areas.

3. Each year Ohio University participates in the James D. Shouse awards, presented by the AVCO Broadcasting Company, which provide a plaque and a monetary award to the outstanding senior in radio-television.

4. There is a student group affiliation with the Columbus Chapter of the National Academy of Television Arts and Sciences, known as the annual "Emmy" awards.

5. Affiliations with National Educational Television, the National Association of Educational Broadcasters, Alpha Epsilon Rho (the professional broadcasting fraternity), the International Radio and Television Society, the Ohio Association of Broadcasters, and the Association for Professional Broadcast Education provide great opportunities for contacts and broad development in the broadcasting field.

INTERPERSONAL COMMUNICATION

Professors: Boase (chairman), Andersch, Goyer, Weaver, Wiseman.

Associate Professors: Bostrom, Faules.

Assistant Professors: Carlson, Foster, Timmis, Wagner.

Instructor: Beatty.

1. Fundamentals of Speech (3)

Analysis of role of oral communication in society with emphasis on speaker-listener responsibilities and needs; performance directed toward development of proficiency in oral communication elements. 1 lec., 2 lab.

3. Public Speaking (4)

Principles of public speaking, practice in presenting informative, entertaining, and persuasive speeches with emphasis on communicative process.

7. Voice and Articulation (3)

Group drill and individual instruction designed to help student achieve proficiency in basic aspects of speech. Prereq: 3, of major.

17. Forensic Workshop (1-6)

Opportunity for intensive work in forensic activities. Small groups of students work inti-

mately with staff members in preparing for audience and contest appearances as debaters, discussionists, orators, oral interpreters, and extemporaneous speakers. See also INCO 317.

20. Oral Interpretation of Literature (3)

Techniques of oral interpretation and development of adequate intellectual and emotional responsiveness to meaning of literature.

104. Listening (2)

Understanding of processes of listening. Practical application of theory.

115. Argumentation and Debate (3)

Basic principles of argumentative discourse including concepts of presumption, burden of proof, rhetorical forms of reasoning and evidence. Practice in application of these principles.

204. Principles and Techniques of Interviewing (4)

Study and practice of methods used in two-party, face-to-face communication situations commonly encountered in business and professional environments. Intensive practice through role-played and real-life interviews in and out of class, emphasizing skills involved in giving and getting information, persuasion, and job-employment situations.

205. Techniques of Group Discussion (4)

Introduction to group discussion, its techniques and their implementation; frequent practice in discussion.

210. Parliamentary Procedure (2)

Study and practice of both theory and procedures by which organizations are run according to rules of order.

212. Speech Composition and Contexts (3)

Application of principles of public speaking with emphasis on research and composition. Various types of speeches given to audiences outside classroom.

234. Introduction to Communication Process (4)

Introduction to study of communication process in terms of its historical and philosophical bases, its major variables, and its forms and effects.

235. Bases of Speech Communication (4)

Analysis of physical, anatomical, physiological, and phonetic bases of speech.

253. History of Oratory I (3)

Impact of public speaking on world events from ancient to modern times.

254. History of Oratory II (3)

255. History of Oratory III (3)

317. Forensic Workshop (1-6)

Opportunity for intensive work in forensic activities. Small groups of students work intimately with staff members in preparing for audience and contest appearances as debaters, discussionists, orators, oral interpreters, and extemporaneous speakers. See also INCO 17.

321. Teaching Speech and Theater I (3)

Philosophy of speech education in secondary schools with emphasis on analysis of goals of speech and theater courses and co-curricular activities. Exploration of course structures, procedures, and methods.

322. Teaching Speech and Theater II (2)

Individual projects include development of course of study units in speech and theater, evaluation procedures, and lesson plans.

346. Communication in Organizations (3)

Traditional and modern conceptions of communication channels. Influence of organizational theory on communication patterns and tasks.

350. Introduction to Rhetorical Theory (3)

Ancient and modern rhetorical concepts and theories; emphasis on relationship of rhetoric to poetics, ethics, law, and modern communication theory.

405. Principles of Conference Leadership (3)

Group process as it applies to problem solving, discussion and conferences, with an emphasis on leadership methods and skills. Prereq: Speech 205 or perm.

425. Direction of Forensic Programs (3)

Organization of forensic programs, management of inter-school contests and tournaments, principles of coaching and judging. Practical application in the University forensic program. Prereq: 115, and 17 or 317 or equiv.

432. Creativity in Communication (3)

Creativity and its relationship to communication.

433. Application of General Semantics (3)

Chief formulations from general semantics with special emphasis on their application to field of speech. Prereq: 10 hrs. of speech or perm.

435. Theories of Argument (3)

Relationships between formal logic and rhetorical systems of argument with intensive study of fallacies and of experimental findings related to study of argument.

442. Social Communication and Persuasion (3)

Process of communication and attitude change, survey of general theories and typical research, analysis of contemporary persuasion, projects in experimental persuasion.

444. Communication Constructs and Systems (3)

Analysis of theoretical constructs and systems of communication behavior. Emphasis on relationship of these constructs to epistemology.

446. Communication and the Campaign (3)

Analysis of process of communication as it occurs in campaign situations.

448. Psychology of Speech (3)

Psychological principles active in communication such as: concept-reference; vocal, visual, and verbal cues; attention, listening, perception, verbal conditioning, and phonetic symbolism.

458. Responsibilities and Freedom of Speech in Communication (4)

460. Contemporary Public Address (4)

Analysis of principal speakers and settings since 1933. World leaders such as Roosevelt, Hitler, and Churchill; American political speakers such as Dewey, Stevenson, and McCarthy; and social leaders such as Thomas, Graham, and King studied, along with UN speaking.

482. Tests and Measurements in Speech Communication (2)

Problems and procedures related to measurement of speech communication processes; idea formation and organization; speaking abilities, skills and attitudes. Prereq: Psych. 242 or equiv.

498. Special Problems (2-4, max. 12)

May be repeated for credit. Prereq: written proposal and perm.

499. Independent Readings (2-4, max. 12)

May be repeated for credit. Prereq: written proposal and perm.

RADIO-TELEVISION

Associate Professors: Holmes (chairman), Holt, Powell, Spalding.

Assistant Professors: Greer, Miller, Saunders.

Instructors: Harris, Marshall, Pagel, Welling, Williams.

5. Introduction to Mass Communication (3)

Introduction to development, structure, functions, processes, control and effects of mass

communication basic to an understanding of electronic media.

7. Broadcast Performance (3)

Responsibilities and skills required of radio-television performer; practice in microphone and camera techniques. Group drill and individual instruction designed to develop adequate proficiency in basic aspects of radio-television communication. 1 lec., 4 lab. Prereq: INCO 3, if majors.

106. Introduction to Radio-Television (3)

Organization, structure and functions of broadcasting as one of the communicative arts which plays an increasingly important role in economic, political and educational affairs and cultural development. 3 lec.

108. Technical Bases of Radio-Television (3)

Principles of electronic reproduction of sound and pictures; characteristics and functions of basic electronic equipment. 2 lec., 2 lab.

111. Elements of Radio Production (3)

Basic elements involved in writing, producing and directing a radio program. 1 lec., 4 lab. Prereq: 108.

116. Elements of Television Production (3)

Basic elements involved in writing, producing and directing a television program. 1 lec., 4 lab. Prereq: 108.

181. History of Radio-Television Programming I (3)

Survey of development of radio-television media as broadcasting, with emphasis on and examples of programming types. See also Comp. Art 181.

182. History of Radio-Television Programming II (3)

Survey of development of radio-television media as broadcasting, with emphasis on and examples of programming types. See also Comp. Art 183.

183. History of Radio-Television Programming III (3)

Survey of development of radio-television media as broadcasting, with emphasis on and examples of programming types. See also Comp. Art 183.

212. Radio Production-Direction (3)

Production of special program types stressing integration of various program elements; remote and taped broadcasts. 1 lec., 4 lab. Prereq: 111.

217. Television Production-Direction (3)

Analysis of theory and techniques of direction for television. Practice with basic program formats. 1 lec., 4 lab. Prereq: 116.

221. Advanced Radio Performance (2)

Advanced performance practice in radio with particular attention given to specific techniques. 1 lec., 2 lab. Prereq: 7.

230. Continuity Writing (3)

Elements of writing for broadcasting, stressing commercial and non-commercial program continuity and announcements, promotional and public service campaigns. 2 lec., 2 lab.

310. Principles of Television Production (3)

Production aspects of television and general principles of equipment operation and crew responsibilities. 2 lec., 2 lab. Not open to Radio-TV majors for credit.

322. Advanced Television Performance (2)

Advanced exercises in television performance stressing special problems of video performer. 1 lec., 2 lab. Prereq: 7.

340. Radio and Television in Education (3)

Summary, analysis, application, and evaluation of TV and Radio research in teaching-learning process.

370. Broadcasting and The Public (3)

Interrelationships between broadcaster, government and public; bases for evaluation of role and significance of broadcasting in society.

413. Advanced Radio Production-Direction (5)

Investigation of special problems in program development for radio. Prereq: 212 or perm.

418. Advanced Television Production-Direction (5)

Individual and group projects in development and production of a television program or series, stressing experimental techniques. Prereq: 217 or perm.

431. Dramatic and Documentary Writing (5)

Writing and critique of form, structure and presentation of both dramatic and non-dramatic programs and series. 5 lec.

441. Instructional Methods in Educational Radio-Television (5)

Practical applications of television in public school classroom. Utilization of television programs as an adjunct to instruction. Preparation of instructional units for telecasting. 3 lec., 4 lab.

450. Broadcast Economics (5)

Study of economic structure of broadcasting industry, economics of its units, and its economic relationships with other industries; case studies in budget planning and cost control. 5 lec.

451. Broadcast Station Operation (5)

Functions, structure and organization of broadcasting stations: case studies relating to problems of personnel, sales, programming and management. 5 lec.

453. Broadcasting Law and Regulations (5)

Study of socio-political control of broadcasting, effect of laws, regulations and public pressures upon programming policies. 5 lec.

455. Broadcast Programming (5)

Study of programming concepts, resources, and costs; use of research in program selection and scheduling. 5 lec.

467. Comparative Systems of Broadcasting (3)

Broadcasting systems of other countries in terms of relevant political, social, economic and cultural influences. 3 lec.

479. History of Broadcasting (5)

Origin of systems of radio and television communication and their development to the present. 5 lec.

498. Special Problems (2-4, max. 12)

Not open to graduate students. Prereq: written proposal and perm.

499. Independent Readings in Radio-Television (2-4, max. 12)

Not open to graduate students. Prereq: written proposal and perm.

**SPEECH PATHOLOGY, AUDIOLOGY
AND SPEECH SCIENCE**

Professors: Ham (chairman), LaFollette.

Assistant Professors: Barnett, Fokes, McPherson, Shallop, Williams.

Instructors: Bartholomy, Hanna, Morris, Ringler.

7. Voice and Articulation (2)

Designed to help each student recognize, evaluate, and compensate for or improve speech characteristics. Prior to enrollment student will be evaluated relative to his speech production characteristics. Open only to majors in Speech Pathology, Audiology, and Speech Science. Prereq: INCO 3, if majors.

107. Introduction to Speech Disorders (3)

Symptoms, causes and evaluation of disorders of speech, voice and language. Prereq: sophomore rank.

208. Phonetics I (3)

Speech sounds from a sociological, physiological, and acoustical point of view. Mastery of International Phonetic Alphabet. Training in phonetic transcription. Prereq: sophomore rank.

210. Language Development I (3)

Provides student with a foundation in normal speech and language development, beginning with necessary pre-conditions of sensory-motor development and speech sound development. Prereq: 208.

213. Speech and Hearing Mechanisms I (3)

Structures, musculature, and functions involved in respiration, phonation, resonance, and articulation for speech. Prereq: 6 hrs. of natural science.

236. Speech Correction for Teachers (3)

Nature, causes, and treatment of defective speech in public schools with special reference to role of classroom teacher.

250. Speech Science (3)

Physical properties of speech signal. Analysis of speech and speech reception. Prereq: 6 hrs. of science.

270. Basic Audiology (3)

Measurement of hearing with pure tone techniques, and interpretation of results of such measurements in terms of social and educational handicap. Prereq: 250, 314.

311. Language Development II (3)

Development of meaning, symbolic representation, morphology and syntax as it develops in young child. Prereq: 210 or perm.

314. Speech and Hearing Mechanisms II (3)

Structures, musculature, functions, and neurology involved in audition and speech. Prereq: 213.

315. Stuttering I (3)

Past and present research, theories, and thinking regarding stuttering. Theoretical background to develop a clinical approach to work with stutterers. Prereq: 9 hrs. of psychology.

318. Disorders of Articulation (3)

Phonetic acquisition, articulation evaluation, theories of therapy and techniques of therapy. Prereq: 208, 210.

319. Disorders of Voice (3)

Exploration of functional and organic voice problems. Voice evaluation, theories and techniques of therapy. Prereq: 213.

351. Laboratory Methods in Speech Science (3)

Physical parameters of speech signal. Laboratory exercises and experiments are emphasized. 2 hr. lec., 3 hrs. lab. Prereq: 250.

371. Auditory Rehabilitation (3)

Basic remedial procedures employed with the hearing handicapped. Practice in planning lessons in speech reading and auditory training. Prereq: 270.

409. Phonetics II (3)

History of phonetics in linguistics, and experimental investigation of speech sound production. Advanced training in phonetic transcription. Prereq: 208. See also SPSA 509.

416. Stuttering II (3)

Treatment of stuttering: various therapy approaches and techniques, habilitation procedures, and development of skills in working with stutterers. Prereq: 315.

422. Diagnostic Procedures in Speech Pathology (3)

Types of diagnoses in evaluation of speech and language problems. Screening tests; use of statistics in testing; basic interview and history procedures. Prereq: 12 hrs. of speech pathology, 9 hrs. psychology.

424. Neuropathologies of Speech and Language (3)

Types, causes, and syndromes of more significant pathologies of speech and language. Particular attention paid to neurological disorders. Prereq: 213, 314.

435. Practicum in Diagnosis and Therapy (1-15)

Diagnosis, planning of therapy, therapy experience. One staff meeting per week. Ratio of two to three clock hours a week per quarter hour. May be repeated for credit. Accumulated credit beyond three hours must be approved.

437. Speech and Hearing Therapy in the Public schools (2)

Methods, organization and implementation of speech and hearing programs in public schools. Must be taken concurrently with Student Teaching. Prereq: eligibility for student teaching.

472. Auditory Disorders in Children (3)

Emphasis on identification audiometry and differential diagnosis of children with suspected auditory disorders. Prereq: 270, 371 and 424.

498. Special Problems (2-4, max. 12)

Not open to graduate students. Prereq: written proposal and perm.

499. Independent Readings in Speech Pathology, Audiology and Speech Science (2-4, max. 12)

Not open to graduate students. Prereq: written proposal and perm.

COMPUTER SCIENCE

See General Studies.

DESIGN

See Architecture and Design.

DRAMATIC ART

See Theater Art.

ECONOMIC EDUCATION

Professor: Warmke.

Part-Time Instructor: Hollinger.

Lecturer: Light.

490. Studies in Economic Education (2-6)

Directed readings and/or research in selected fields of economic education. Topics selected by student with advice of staff member. Prereq: perm.

491. Research in Economic Education (2-6)

Prereq: 20 hrs. and perm.

ECONOMICS

Professors: Crewson (chairman), DeVeau, Gallaway, Hellebrandt, Levinson, Lovenstein, Picard, Soltow.

Associate Professors: Charle, Darcy.

Assistant Professors: Adie, Agapos, Bradfield, Chapin, Kaminow, Koshal, Klingaman, Levine, Mengel, Potemra, Scully, Shukla, Vedder.

1, 2. Principles (4, 4)

Basic theory and economic analysis of prices, market, production, wages, interest, rent, and profits. First half is designed to serve as a terminal course for students desiring one quarter of work in economics. Second half

is concerned with economic problems and economic institutions of society. Among problems analyzed are labor unions, money and banking, taxation, public utilities, international trade, business cycles, and agriculture. Not open to juniors and seniors.

121. Agricultural Development (4)

Patterns of agricultural development in the U.S. and in selected foreign areas; technological and demographic changes in agriculture; socio-economic problems; marketing arrangements; case studies of specific agricultural development projects. Prereq: 2.

140. Current Economics Problems (4)

Application of economic theory to current economic problems with emphasis upon public-policy implications. Examples of topics considered are: depressed areas, technological unemployment, economic growth, inflation, and agricultural instability. Prereq: 2 or perm.

203. Economics of the Firm (4 or 5)

Intensive study of price system as an allocative mechanism. Includes price and production policies of individual firms and consumers under alternative market conditions and analysis of these policies on social efficiency of resource allocation. Prereq: 2 or 302.

204. National Income and Employment Analysis (4 or 5)

Factors which determine level of nation's economic activity and are responsible for growth and stability in nation's economy. Part of course devoted to measures of national income while remainder consists of analysis of interrelationships among production, price levels, relative prices, employment, and capital formation. Prereq: 2 or 302.

230. Economic Indicators (3)

Sources and uses of statistical measures of economic performance including national income accounts, price and production indexes, labor force and unemployment data, governmental finances. Practical exercises to develop skill in analyzing and using economic data. Not a course in statistical theory. Prereq: 2.

240. Public Finance (4)

Analysis of spending and taxing functions of federal, state, and local governments. Growing importance of fiscal policy in determining level of employment. Economic effects of various taxes of federal, state, and local governments. Not open to economics majors. Prereq: 2.

297, 298. Economics for Honors College Students (4, 4)

Economic theory, history, and statistics. Development of an analytical framework for students to understand contemporary economic issues and trends. Discussion, problem-solving, reports emphasizing student participation. Prereq: enrollment in Honors College.

301, 302. Principles (4, 4)

Description same as for 1, 2 but content is treated at a more advanced level. Not open to freshmen and sophomores, or those who have had 1 or 2.

323. Money, Banking and Economic Activity (4)

Nature of money, debt, and credit; relations between money and finance and economic activity. Functioning of commercial banking system and other financial institutions. Operations and powers of Federal Reserve System and Treasury. Monetary policy and monetary theory. Prereq: 2. See also Fin. 323.

404. Institutional Economics (4)

Economic theory and policy contributions of Veblen, Commons, Ayres, and other modern dissenters from traditional economic thought. Principles of technological progress and institutional adjustment; influence on contemporary theory and policy. Prereq: 2 or 302.

405. History of Economic Thought (3 or 4)

Evolution of major economic doctrines; mercantilists and cameralists, physiocrats, Adam Smith and classical school, historical school, Austrian school, Alfred Marshall and neoclassicists. Prereq: 2 or 302.

406. Modern Economic Thought (3 or 4)

Analysis of contributions to economics of most significant writers since Alfred Marshall. Prereq: 2 or 302.

415. Economic History of the United States (4 or 5)

Economic factors in development of United States including historical growth of economic institutions such as banking, manufacturing, labor unions, and agriculture, from colonial times to the present. Prereq: 2 or 302.

416. Rise of Industrial Society (4 or 5)

Analysis of economic growth of "developed" countries. Focus on industrial revolutions in Great Britain, France, Germany, Soviet Union and Japan. Historical experience of these countries related to various theories of economic change. Prereq: 2 or 302.

420. Economic Development (4)

Analysis of nature of, obstacles to, and future possibilities for economic growth of nations. Special emphasis given to problems of underdeveloped countries. Studies of selected countries utilized. Prereq: 2 or 302.

421. African Economic Development (4)

Economic characteristics of African societies as traditional economies and in process of modernization. Prereq: 420 or perm.

422. The Chinese Economy (4 or 5)

Purpose is to give student an introductory familiarization with Chinese economy. Topics covered include: China's early industrialization, 1880-1931, socialist transformation of each economic sector, 1949-1966, overall performance of Chinese economy and each economic sector and Maoist revision of orthodox Marxist-Leninist economic doctrines. Prereq: 420 or perm.

423. The Economy of Latin America (4)

Analysis of characteristics of economies of countries of Latin America. Particular emphasis given to prospects for economic development of the region and to nature and origin of institutional obstacles to economic change. Among topics covered are: economic heritage of colonial period and subsequent evolution of economic institutions, resources of the area and their utilization, and trends in economic activity and policy in the post-World War II period. Prereq: 420 or perm.

425. Comparative Economic Systems (4 or 5)

Analysis of theoretical and institutional characteristics of capitalism and socialism with specific emphasis given to prevailing economic systems in the United States, England, and Russia. Prereq: 2 or 302.

426. Economics of the Soviet Union (4 or 5)

Survey of operation of economy of Soviet Union. Among topics covered are: allocation of resources, planning saving and investment, agriculture, public finance, price system, and international trade. Prereq: 302.

428. Regional Analysis (4 or 5)

Theories of regional and interregional relationships and policies for regional development. Consideration of economic, geographic, demographic, political, and social factors. Prereq: 2 or 302.

429. Economics of Planning (3 or 4)

Analysis of economics of planning and its major applications to private and public planning; national, regional and local planning; centralized and decentralized planning. Pro-

cedures and techniques of planning: organization, economic analysis, social accounting, input-output analysis, linear programming, location theory, industrial complex analysis; gravity, potential and spatial models, computers and planning; research and development. Prereq: 2 or 302 and perm.

430. Introduction to Mathematical Economics (4 or 5)

Mathematical Analysis in Economics. Survey of those calculus and matrix algebra techniques used prominently in Economics literature, together with their application to selected problems in Economics. Prereq: Ec. 2 or 302 or perm.

432. Programming Models for the Firm (4 or 5)

Linear, non-linear and dynamic programming discussed as possible explanation of firm behavior. Social consequences of resource allocations under these models discussed. Prereq: 203 or perm.

435. Introduction to Econometrics (4 or 5)

Applications of statistics to economics. Design and estimation of economic models. Estimation of simultaneous equation systems. Prereq: 430 or perm.

441. Fiscal Policy (3 or 4)

Roles played by government expenditures, taxes, and debt in maintaining full employment, price stability and economic growth. Prereq: 204 or perm.

442. Economic Fluctuations and Growth (4)

Nature and causes of economic fluctuations, basic economic cycles, theories and their application in the business world. Emphasis on Advanced Economic theory, on stabilization policies and analysis of stability of Equilibrium. Prereq: 204.

451. Monetary Policy (3)

Policy making machinery of monetary institutions. Relationship of Federal Reserve System, Treasury, and commercial banking system; case studies in formulation and implementation of monetary policy. Effectiveness of monetary policy actions. Prereq: 323 or 12 hrs. of economics. See also Fin. 451.

453. Monetary History of the United States (3)

Correlation of developments in American History with development of monetary institutions, policy, and theory. Evolution of commercial and central banking and relationship of these to economic activity in history of the United States. Prereq: 323. See also Fin. 453.

460. Organization and Structure of Industry (5)

Examination and analysis of market structure, market conduct and market performance in American industry. Emphasis on developing a theoretical framework for evaluating efficiency of industry. Merger activity examined historically and its causes determined. Characteristics of principal manufacturing and processing enterprises evaluated. Contribution of theory of industrial organization to macroeconomic theory and microeconomic theory discussed. Prereq: 2 or 302.

461. Economic Policy and Industrial Organization (5)

Examination of social consequences of monopoly and competition. Various policy prescriptions dealing with economic concentration and market structure considered, as well as impact of these policies on United States business. Government regulation of business reviewed and evaluated. Prereq: 2 or 302.

462. Government and Agriculture (4 or 5)

Problems of American agriculture as an industry; economics of government policies and programs; consideration of forces and objectives in policy formation. Prereq: 2 or 302.

463. Economics of Government (3 or 4)

Role played by government as user of economic resources and redistributor of incomes. Some questions explored: need for government's entry into economy, optimal size of government, selection of tax and expenditure schemes and effects of government economic activity on private sector. Prereq. 203 or perm.

464. Economics of Defense (4 or 5)

Theoretical and practical approach to government procurement, contracting and implementation of efficient allocation of resources. Economic approaches and analysis of military procurement problems in determining fiscal effects on economy. Methodology and utilization of business methods for greater insight on government defense budgeting. Special emphasis on aircraft/aerospace industry. Prereq: 2 or 302.

468. Economics of Transportation (3 or 4)

Discusses economics of transport pricing, regulation of transport and national transport policy. Prereq: 2 or 302.

469. Public Utilities (3 or 4)

Economic basis of public utility concept and its relation to business organization. Nature, scope, development, legal organization, and regulation of public utilities. Prereq: 2 or 302.

470. Labor Economics (4)

Survey of economic forces generating modern labor problems. Among topics considered are: history of labor movement; labor in politics; labor-management relations; wages; and full employment. Prereq: 2 or 302.

471. Labor Legislation (4)

Survey of law bearing upon labor problems. Among topics considered are: labor-relations legislation, old-age and unemployment insurance, workmen's compensation, and wages-and-hours legislation. Prereq: 2 or 302.

475. Economics of Poverty (4)

Incidence, causes, and consequences of poverty in an affluent society. Economic theory, history, statistics applied to analysis of poverty-reduction measures. Prereq: 2 or 302 or perm.

476. Economics of Human Resources (4)

Current developments in theory, empirical research, and policy with respect to investment in human resources, economic value of education, manpower programs and growth. Prereq: 2 or 302.

480. International Economics (4)

Economic relations of nations of the world. Some of topics considered are: economic basis for international trade and investment; mechanics of international exchange; tariffs, quotas, exchange control, cartels, and state trading as devices of economic nationalism; and international economic cooperation with special reference to organizations affiliated with the United Nations. Prereq: 2 or 302.

481. International Economic Policy (4)

Current economic developments of foreign and United States economic policy. National and international aspects of policy will include tariffs, controlled trade, international agreements, commercial treaties, foreign exchange control, clearing agreements, international liquidity controversy, and contemporary balance of payments problems. Roles of institutions such as the world bank and the International Monetary Fund discussed with emphasis on interaction of domestic and international goals and policies. Prereq: 480.

490. Studies in Economics (2-6)

Directed readings and/or research in selected fields of economics. Topics selected by student with advice of staff member. Prereq: perm.

491. Research in Economics (2 to 6)

Prereq: 20 hrs. in economics and perm.

492. Seminar in Economics (3-6, max. 14)

Prereq: 20 hrs. in economics and perm.

EDUCATION

COMPARATIVE
ELEMENTARY AND SPECIAL
AUDIO-VISUAL
GUIDANCE, COUNSELING,
AND STUDENT PERSONNEL SERVICES
PROFESSIONAL LABORATORY
EXPERIENCE
SECONDARY

Distinguished Professor: Hill.

Professors: Crowell (dean), Hicks, Hummel, Krantz, Lynn, Ploghoft, Roberts, Shoemaker, Shuster, Stephenson, Womble.

Associate Professors: Bane, Boyd, Carew, Cicirelli, Cooper, D'Augustine, Dressel, J. Evans, M. Evans, Felsingher, Green, Huffman, Milliken, Mills, Ostlund, Ploutz, Roaden, Roberts, Sellers, Sligo.

Assistant Professors: Appel, Branstool, Cosiano, Dailey, Doxsee, Dumond, Eisen, Ginther, Griffis, Graham, Grubb, Hake, Harrington, Hill, Holland, Hoy, M. Johnson, Lackey, Langford, Leep, Leighty, Lewis, Macauley, Madison, Mallan, Moffet, Nehls, Nitzschke, Oates, Pietras, L. M. Rand, L. P. Rand, Rodgers, Rogers, Skinner, Starks, B. Thompson, J. Thompson, Tracy, Trembley, Ullman, Wagoner, Weimer, Witmer.

Instructors: Adams, Bartels, Bowling, De-Pauw, Greene, Hannemann, Hultz, Izard, G. Johnson, Lockard, Meyers, McKinley, O'Grady, Peterson, Phillips, Pinney, Radford, Slater, Smith, Spencer, Wade, Warner, Yarington, Yovichin.

Lecturer: Ray.

COMPARATIVE**432. Perspectives in International Education (3)**

Designed to provide an opportunity for students to assess critically interactions of formal schooling with social, economic, and political concerns. International perspective is maintained which offers an introduction to comparative study of educational patterns and problems. *Mallan*

ELEMENTARY AND SPECIAL**100. Studies of Children (3)**

Bases for a developmental theory of education; growth sequences through adolescence;

principles of development, behavior and learning; techniques of child-study; systematic observation in the University Elementary School; implications for educational practice. Prereq: admission to teacher education. *Cicirelli, Hake*

304. The Development of Kindergarten Education (3)

History, development, philosophy, and current trends in kindergarten education. Prereq: 100. Not open to freshmen.

305. Materials and Methods in Kindergarten-Primary Education (3)

Work and play activities of early childhood, and development, use, and care of materials best suited to this age group. Prereq: 100 and 304. *Starks*

310. The Teaching of Reading in the Elementary School (4)

Pre-service preparation for developmental teaching of reading; text and supplementary readings, lectures and discussion, films and other resources, observations, and projects for practical competence. Prereq: 100, admission to junior standing in teacher education.

Cooper, Yarington

320. Oral and Written Communication in the Elementary School (3)

Pre-service preparation for developmental teaching of oral communication and written expression; texts and supplementary readings; lectures and discussion, films and other resources, observations, and projects for practical competence. Prereq: 100, admission to junior standing in teacher education. *Cooper, Yarington*

321. Children's Literature (3)

Criteria for selection of children's literature, children's reading interests, preparation of materials for use in the literature program, use of choral reading and verse choir, and reading of outstanding literature for children. Prereq: 100, admission to junior standing in teacher education.

330. Teaching of Mathematics in the Elementary School (5)

Methods of teaching number, numeration, operations, relations, problem solving, measurement, and geometry. Prereq: 6 hrs. selected from Math. 20a, 20b, 20c or 60a, 60b, and admission to junior standing in teacher education. *D'Augustine*

340. Teaching of Science in the Elementary School (4)

Materials and methods of teaching science in elementary schools. Textbooks, science equip-

ment, and related instructional materials will be used by students in laboratory lessons. Prereq: 100, 12 hrs. of science, and admission to junior standing in teacher education. *Mills, Ploutz*

350. Teaching of Social Studies in the Elementary School (4)

Materials and methods used in teaching content subjects in the elementary schools, with special emphasis upon practical experience in social studies unit teaching and skills. Prereq: 100, 3 courses of social science, including Geog. 150, and admission to junior standing in teacher education. *Leep, Moffet*

370. Diagnostic and Remedial Instruction in Elementary Subjects (3)

Laboratory course in method of diagnosis and remedial treatment in fundamental school subjects for exceptional children with emphasis on adjustments of curriculum and instructional materials within the regular classroom. Students are given opportunity to observe and work with exceptional children. Prereq: 9 hrs. in education or psychology, including Ed. 100 and Psy. 175.

371. Introduction to the Education of Exceptional Children and Youth (3)

Survey of educational needs of exceptional children including gifted, slow learner, trainable and educable mentally retarded, non-sensory neurologically impaired, speech handicapped, aurally and visually impaired, and socially and emotionally maladjusted. Prereq: Ed. 100. *Peterson*

372. Introduction to the Education of Mentally Retarded Children and Youth (3)

Etiology, diagnosis, classification, learning potential, and general characteristics of the retarded child with emphasis on psychosocial impact of retardation upon the individual, his family, and community. Prereq: Ed. 100. *Peterson*

373. Curriculum Construction and Instructional Materials for Handicapped Children (3)

Organization of curriculum for instruction including basic goals, objectives, and content with emphasis upon selection, preparation, and modification of instructional units of experience and appropriate materials for handicapped children and youth. Prereq: 372. *Peterson*

374. Teaching Communicative Arts to the Mentally Retarded (3)

Organization and methods of teaching receptive and expressive communicative skills in-

cluding speech, reading, and writing to the mentally retarded with emphasis on practical competence. Prereq: 372. *Peterson*

375. Teaching Natural and Social Science to the Mentally Retarded (3)

Organization and methodology used in teaching natural and social sciences to the mentally retarded with emphasis on developing appropriate unit material. Prereq: 372. *Peterson*

376. Teaching Mathematics to the Mentally Retarded (3)

Organization in methodology of teaching basic mathematical concepts and skills which have particular relevance to social and vocational adequacy of mentally retarded children and youth. Prereq: 372. *Peterson*

377. Problems of Post School Adjustment for the Handicapped (3)

Roles of education, guidance, vocational training, placement, and follow-up service in promoting adjustment of handicapped youth to community living. Prereq: 372. *Peterson*

400. Advanced Studies of Children (3)

Intensive study of biological and environmental influences on human development from conception to maturity. Prereq: 20 hrs. of education or psychology. *Cicirelli, Hake*

407. Evaluation in the Elementary School (3)

Standardized tests in the elementary school with emphasis on selection, interpretation, and use. Teacher-made tests, check lists, rating scales, and anecdotal records. Elementary statistical treatment of test scores and grading. Prereq: admission to junior standing in teacher education, 12 hrs. of education.

411. Diagnosis and Treatment of Reading Disabilities (3)

Correlates of variability in reading proficiency. Incidence of retardation and disability. Proposed causes of failure and the concept of multiple causation. Specialized materials and instructional efforts. Systematic observation of cases of reading disability and preparation of case report. Prereq: 163, perm. *Cooper, Yarington*

430. Modern Elementary Mathematics Curriculum (3)

Modern elementary mathematics curriculum with emphasis on why changes are occurring. Nature of changes as reflected from experimental programs; effect of changes on methods of teaching. Implementation of these changes in the classroom. Prereq: 330. *D'Augustine*

460. The Child and the Curriculum (3)

Emphasis placed upon service role of curriculum to children and society. Prereq: student teaching. *Weimer*

490. Independent Study in Education (1-9)

Individual independent study, under guidance of staff member(s) of some special interest and concern (problems, area, questions); assigned and suggested readings and other resources and experience; frequent conferences; preparation of a final report. Prereq: perm.

GUIDANCE, COUNSELING, AND STUDENT PERSONNEL SERVICES

390. Seminar in Student Residence Programs (3)

Need, value and philosophy of student personnel work in higher education with emphasis on student residence program. Study of fundamental concepts, principles and techniques of student residence programming, human behavior and higher education. Prereq: perm.

410. Human Relations (3)

Taught by the case method and classroom discussion, designed for students interested in studying skills of analysis and action in interpersonal relationships that occur in school, work, or family situations. Prereq: perm. *Osthund*

420. Guidance Procedures in Elementary Schools (3)

Need for guidance in elementary schools, major non-instructional services, guidance approaches in assisting individuals and groups in elementary school. Teacher's guidance functions. Prereq: Ed.El. 100, Psych. 175. *Witmer*

430. Guidance in American Secondary Schools (3)

Basic foundations of guidance for persons working with school age youth, teacher, school counselor, other pupil personnel, and community resources. Use of pupil-centered, teacher-centered, and school-centered guidance tools and procedures. Prereq: Psych. 175. *Green*

440. Foundations in Group Dynamics (3)

General principles and basic techniques of group dynamics. Interaction in human relations situations that occur in a residence hall, classroom, business and industry, and community. Through demonstration and participation, students learn to understand and to use observational and role-playing techniques. Prereq: perm. *Carew*

PROFESSIONAL LABORATORY EXPERIENCE

260. Field Service in Education (2)

Participation in community agencies, summer camps, recreation programs, Head Start, and various school related programs other than the September program (Ed. Pl. 360). Weekly seminar and evaluation paper. Prereq: sophomore rank. *Evans*

360. Field Experience in Elementary or Secondary Schools (2)

Observation and participation for period of two weeks at the opening of the school year in September. Orientation meetings for this program are conducted by the Student Teaching Office during the first week of May each year. Administrative approval of the selected school system is required. Prereq: junior rank, perm. *Evans*

460. Observation and Participation in Elementary or Secondary Schools (3)

Extensive participation in school program extending over period of one quarter, designed primarily for students with some classroom teaching experience, especially students from other countries. Prereq: perm. *Evans, Rodgers*

461, 462. Student Teaching in Elementary Schools (6, 6)

Assigned responsibility for responsible teaching under supervision of a master teacher in a classroom in K-6 range for one quarter, full-time. Concurrent registration in 461, 462 and 465 is required of all Elementary Education and speech therapy majors. Concurrent registration in 461, 463 and 465 is required of majors in art, music, and physical education. Prereq: perm. *Evans, staff*

463, 464. Student Teaching in Secondary Schools (6, 6)

Assigned responsibility for teaching under supervision of a master teacher in a classroom in 7-12 range for one quarter, full-time. Concurrent registration in 463, 464, and 465 is required of all majors in secondary academic areas, home economics, and industrial arts. Majors in art, music and physical education must register concurrently for 461, 463 and 465. Prereq: perm. *Evans, staff*

465. Student Teaching Seminar (3)

Analysis and interpretation of student teaching experience. Problem-centered discussion of major areas of concern directly related to classroom teaching. Structured discussion of unit and lesson planning, evaluation, classroom management, pupil adjustment, effects

of recent legislation upon classroom teacher, position procurement, professional ethics, and professional organizations. Concurrent enrollment for 12 qtr. hrs. credit in student teaching is required. *Evans, Rodgers, Eisen, staff*

466. Student Teaching for Advanced Students (6-9)

Seminar with observation, participation, and limited opportunities for teaching; open only to elementary education degree candidates with prior teaching experience and selected secondary education majors. Offered first summer session only. Prereq: perm. *Evans, staff*

SECONDARY

120. Introduction to Secondary Education (3)

Inquiry designed to provide an understanding of the educational foundations of the secondary school. Historical, philosophical, sociological, and psychological foundations of the contemporary school are emphasized in relation to their influences on cultural settings and comparative aspects. Prereq: Admission to teacher education or perm. of Education Personnel Dean.

125. Introduction to Purposes and Practices of Education (3)

Designed as a corollary to 120, and offered to students in the special areas of speech and hearing therapy, music, art, and physical education who may teach in grades K-12. Prereq: Admission to teacher education or perm. of Education Personnel Dean. *Lynn*

191. Educational Research Techniques and Writing (3)

Concentration upon communication skills of reading, writing, and speaking utilizing educational writings dealing with history of education, philosophy, psychology, sociology, and current issues. Students focus on development of critical reading, effective writing and speaking skills. Educational research materials and techniques, along with use of the Education Library, receive emphasis. *Pietras*

297. Honors Course (3)

Designed for Honors College students as an introductory course in field of secondary education. Comparable to 120. Prereq: Admission to Honors College and teacher education.

300. Teaching of Bookkeeping and Basic Business (3)

Materials, methods, and techniques used in teaching of bookkeeping and basic business subjects in secondary schools. Prereq: Acct. 125 and Ed. Sc. 322. *Beckert*

301. Teaching Mathematics in Middle and Junior High School (3)

Organization and methods of teaching the subject matter of mathematics curriculum in grades seven and eight. Number system studied.

302. Teaching of Earth Science (3)

Development and use of instructional materials and techniques related to teaching of earth science in secondary schools. Prereq: Ed. Sc. 322.

308. Teaching of Physical Science (3)

Consideration of instructional materials, classroom methods, sources of laboratory equipment and supplies, and teaching techniques in secondary-school physical sciences courses. Prereq: 8 hrs. of chemistry or physics.

309. Teaching of the Social Studies in Junior and Senior High Schools (3)

Nature, development, purpose, and value of social studies, with emphasis on methods and techniques of instruction in this field. Problems of curriculum reorganization, unit planning, materials of instruction, and evaluation. Prereq: 322 or Ed. 229 and perm. *Roberts*

321. Principles of Teaching and Learning in the Secondary School (3)

Principles of teaching and nature of learning designed to blend these two aspects into one dynamic process. Special emphasis on learning process, theories of learning, motivational techniques, concept development, and methods of interaction with the adolescent. Prereq: 120 or 125 and admission to junior standing in teacher education or perm. of Education Personnel Dean.

322. Introduction to Secondary Curriculum (3)

Designed to equip student to function effectively and productively as a contributing staff member in the area of curriculum development in the secondary school. Emphasis on teacher's role in curriculum evolution; development of courses of study, our curricular guides and resource units; development of unit and lesson plans; evaluating, marking, reporting, and test construction; along with a study of curricular trends and patterns. Prereq: 321 or Ed. 130 and admission to junior standing in teacher education or perm. of Education Personnel Dean.

323. Instructional Practices and Methods in Secondary Schools (3)

Designed to offer depth in classroom management, organization, and practices. Class control, personalized instruction, enrichment, independent study, team teaching, student

guidance, public and professional relations, along with practical application of instructional media are pursued. Prereq: 322 and admission to junior standing in teacher education.

397. Honors Course (3)

Designed for Honors College students and comparable to 321. Prereq: Admission to Honors College and junior standing in teacher education.

398. Honors Course (3)

Designed for Honors College students and comparable to 322. Prereq: Admission to Honors College and 397 or 321 and admission to junior standing in teacher education.

399. Honors Course (3)

Designed for Honors College students and comparable to 323. Prereq: Admission to Honors College and 398 or 322 and admission to junior standing in teacher education.

423. Evaluating Pupil Progress in Secondary Schools (3)

Test construction, teacher-made tests, standardized tests, and instructional objectives of testing. Test evaluation, score interpretation, and relation of tests to student development are studied.

431. Teaching Reading in the Junior High and High School (3)

Materials, methods, and developmental patterns of the adolescent within the area of reading. Remedial programs and adaptation of materials to the adolescent are also pursued. Prereq: 9 hrs. and Psych. 175. *Pietras*

490. Studies in Secondary Education (1-9)

Designed to serve a special projects function as defined by the chairman of the department. Prereq: Perm. *Boyd*

ENGINEERING AND TECHNOLOGY

CHEMICAL

CIVIL

ELECTRICAL

ENGINEERING GRAPHICS

INDUSTRIAL AND SYSTEMS

MECHANICAL

CHEMICAL

Professors: Kendall (chairman), Mayer, Savage.

Associate Professors: Baasel, Baloun.

Assistant Professors: Collier, Throne.

200. Introduction to Chemical Engineering (4)

Applications of chemistry, physics and mathematics to solution of material and energy balance typical of those encountered in process industries. 3 lec., 2 lab. Prereq: Chem. 12, Math. 18.

302, 303, 304. Chemical Engineering Thermodynamics and Kinetics (3, 3, 3)

Application of thermodynamics to chemical engineering problems, including problems in chemical equilibrium for homogeneous and heterogeneous systems, mixtures and pure materials. Applications of chemical kinetics to design of chemical reactor systems. 3 lec. each course. Prereq: 200, Math. 132.

331. Principles of Engineering Materials (4)

Fundamental principles underlying behavior of engineering materials. Study of relationship between structure and properties of ceramic, metallic, and polymeric materials. 4 lec. Prereq: Chem. 12.

342-343. Unit Operations I and II (3-3)

Fundamental principles of fluid flow, heat and mass transfer. 3 lec. Prereq: 200, Math. 132.

344. Unit Operations III (3)

Stagewise processes including distillation and extraction. 3 lec. Prereq: 200.

400. Applied Chemical Engineering Calculations (3)

Setting up of ordinary and partial differential equations corresponding to chemical engineering situations and some methods available for their solutions including classical, numerical, and computer techniques. 3 lec. Prereq: Math. 240.

405. Applied Engineering Statistics (3)

Statistical design and analysis of engineering experiments. Use of statistics to obtain maximum information from experimental data. 3 lec. Prereq: perm.

413. Chemical Engineering Lab I—Digital Computers (1)

Laboratory emphasizing use of digital computers for chemical engineering calculations. 2 lab. Prereq: 342.

414. Chemical Engineering Lab II—Analog Computers (1)

Laboratory emphasizing use of analog computers for chemical engineering calculations. 2 lab. Prereq: 342.

415, 416. Chemical Engineering Lab III, Chemical Engineering Lab IV (2, 2)

Laboratory practice to illustrate principles of selected unit operations, thermodynamics, applied kinetics, and reactor design and to aid the student in gaining confidence in handling of pilot plant equipment. Development of ability to devise and conduct chemical engineering experiments with minimum supervision and to report results satisfactorily is stressed. 4 lab. each. Prereq: 343, 344, senior rank.

417. Chemical Engineering Lab V (2)

Laboratory course with emphasis on Process Control and Simulation. 4 lab. Prereq: 442, 416.

418. Chemical Engineering Lab VI—Materials (1)

Demonstrations and experiments supporting relationships which exist between structure and properties of ceramic, metallic, and polymeric materials. 3 lab. Prereq: 331.

419. Chemical Engineering Lab VII—Advanced Materials (1-2)

Individual and small group investigation of advanced problems involving chemical, mechanical, physical, or design parameters of materials, materials structure, or fabrication. Investigations may involve ceramics, metal, polymers, or composites. 2 lab. for each hour credit. Prereq: An advanced materials course, such as 430, 433, 471, or 474.

421. Unit Processes (3)

Typical inorganic and organic processes, with emphasis on application of thermodynamic and kinetic theory, and on raw material and energy sources, to design and lay-out of these processes. 3 lec. Prereq: 344 or with 344, or perm.

430. Metallic Corrosion (3)

Basic principles of corrosion including electrochemical foundation, influence of environment, stress, strain, and structure. Selected laboratory experiments. 3 lec. Prereq: 418.

433. Physical Metallurgy (3)

Mechanisms, kinetics, and crystallography of reactions in metallic solids. Selected laboratory experiments for illustration of principles. 3 lec. Prereq: 418.

442. Process Control and Simulation (3)

Simulation and control of chemical processes. Both feedback and feed forward control are discussed. 3 lec. Prereq: 343, 344.

443-444. Chemical Engineering Design (3-3)

Project work involving chemical process design, including evaluation and extension of fundamental data by calculation choice of operating conditions, estimation of costs and selection of equipment. 3 lec. each. Prereq: 343 and 344 or perm.

452. Introduction to Transport Phenomena (3)

Introduction to heat mass and momentum transfer from a theoretical basis. Presentation of boundary-layer theory and its comparison with other theoretical and semi-theoretical approaches. 3 lec. Prereq: 343.

471. Introduction to Polymer Properties (3)

Develops a thorough understanding of what polymers are and why they possess unique properties. Basic properties of polymers such as molecular weight, molecular weight distribution, rheological behavior, morphology, etc., will be studied and related to the ultimate physical and chemical properties. Relationship between ultimate properties and chemical properties and proper use of polymeric materials also studied. 3 lec. Prereq: Chem. 255 and Chem. 105 or with Chem. 255 and Chem. 105.

474. Introduction to Polymer Engineering (3)

For students with little or no experience in production and fabrication of polymeric materials. Emphasis placed on study of heat and mass transfer, fluid flow, kinetics and thermodynamics as applied to processing of synthetic organic materials of plastic or elastic nature. Topics such as injection molding and emulsion polymerization are typical of those considered. 3 lec. Prereq: 343 and 471, or perm.

480. Colloquium (1)

Lectures, mainly by speakers outside the engineering field, on cultural and professional subjects, with discussion moderated by the speakers. 1 lec. Prereq: senior rank.

490. Special Investigations (1-3, max. 9)

Individual or small group work, under staff guidance, in research or advanced study in a particular field of chemical engineering. Prereq: perm.

CIVIL

Professor: Shermer (chairman).

Associate Professors: Badger, Olson.

Assistant Professors: Davidson, Hazen, Kane-shige, Russ, Wang.

110. Plane Surveying (4)

Basic theory and field practice. 3 lec., 3 lab. Prereq: Math. 6. (Fall and Spring quarters)

210. Surveying II (3)

Adjustments of instruments, propagation of errors, triangulation, astronomical observations, special topics. 3 lec., 3 lab. Prereq: 110. (Spring quarter)

220. Statics (4)

Laws of equilibrium of forces; friction; centroids and moment of inertia. 4 lec. Prereq: Math. 163A or with Math. 163A. (Fall, Winter and Spring quarters)

222. Strength of Materials (4)

Elementary stresses and strains, torsion; flexure, including elastic curve equations; columns; combined stresses; stresses due to impact. 4 lec. Prereq: 220. (Fall, Winter and Spring quarters)

223. Strength of Materials Laboratory (1)

Testing of various materials under axial compression, tension, flexure, torsion, and impact. Use of electrical and mechanical strain measuring equipment. 2 lab. Prereq: 222 or with 222. (Fall, Winter and Spring quarters)

311. Route Engineering (4)

Curves and spirals; geometric design of highways, earthwork problems. 4 lec. Prereq: 110. (Fall quarter)

321. Dynamics (4)

Motion of particles and rigid bodies, work and energy, impulse and momentum. 4 lec. Prereq: 220. (Fall, Winter and Spring quarters)

324. Strength of Materials II (3)

Theories of failure, unsymmetrical bending, shear center and other topics not covered in usual undergraduate course. 3 lec. Prereq: 222. (Fall quarter) *Badger*

330. Structural Theory I (4)

Statically determinate structures. 4 lec. Prereq: 222 (Winter quarter) *Shermer*

331. Structural Theory II (4)

Statically indeterminate structures. 4 lec. Prereq: 330. (Spring quarter) *Shermer*

340. Fluid Mechanics (5)

Statics and dynamics of viscous and non-viscous fluids, dimensional analysis and similitude, one-dimensional gas dynamics, pipe flow, principles of lift and drag, introduction to boundary layers. 5 lec. Prereq: 321. (Fall and Winter quarters) *Olson*

341. Fluid Mechanics Laboratory (1)

Laboratory techniques, calibration principles, fluid and flow measurements. 2 lab. Prereq: 340 or with 340. (Fall and Winter quarters) *Olson*

343. Hydrology (3)

Precipitation data, rainfall, and run-off, irrigation, flood control, erosion control, and municipal and industrial water supply. 3 lec. Prereq: 340. (Spring quarter)

370. Soil Engineering (4)

Soil compositions, physical and chemical properties, and classifications; water movement and seepage problems; stress distribution, settlement, and shear strength; applications to earth structures, retaining walls, foundations, and slope stability. 3 lec., 2 lab. Prereq: 222, Geol. 103. (Winter quarter) *Wang*

425. Advanced Strength of Materials (4)

Advanced treatment of theories of failure, stresses and strains at a point, cross shear, unsymmetrical bending, curved beams, torsion, thick-walled cylinders, energy methods. 4 lec. Prereq: 222 and perm. (Fall quarter) *Adams*

432. Structural Design in Steel (4)

Design of metal structures. 3 lec., 2 lab. Prereq: 331. (Fall quarter) *Shermer*

433. Structural Design in Concrete (4)

Analysis and design of reinforced concrete members and structures by elastic and ultimate strength methods. Introduction to pre-stressed concrete. 3 lec., 2 lab. Prereq: 331, 370, or with 370. (Winter quarter) *Shermer*

434. Structural Design II (3)

Design of complete structures or major components of structures in various materials. 2 lec., 2 lab. Prereq: 432, 433. (Spring quarter) *Shermer*

442. Applied Hydraulics (3)

Flow and pressure distribution in multi-loop networks, dynamics of flow in pumps and turbines, uniform and non-uniform flow in open channels culvert hydraulics, hydraulic transients. 2 lec., 2 lab. Prereq: 340. (Spring quarter) *Olson*

446. Advanced Fluid Mechanics I (3)

Inviscid flow theory. General equations of fluid mechanics, study of potential flows. 3 lec. Prereq: 340 and/or perm. (Fall quarter) *Olson*

447. Advanced Fluid Mechanics II (3)

Viscous flow theory. Mechanics of fluid resistance, laminar and turbulent flow, applications to external boundary layer flow and to flow in ducts. 3 lec. Prereq: 340 and/or perm. (Winter quarter) *Olson*

450. Water Treatment (3)

Source, treatment, and delivery of water. Design and construction of water purification plants. 3 lec. Prereq: 340. (Fall quarter) *Kaneshige*

451. Waste Water Treatment (3)

Collection, treatment, and disposal of sanitary and industrial wastes. Design and construction of sewage disposal plants. 3 lec. Prereq: 340. (Winter quarter) *Kaneshige*

452. Water and Waste Water Analysis (3)

Laboratory methods and interpretation of results for chemical and bacteriological examination of water and waste water. 2 lec., 2 lab. Prereq: 450, 451. (Spring quarter) *Kaneshige*

461. Transportation Engineering (5)

Comparative analysis of various modes of transportation, with emphasis on inherent advantages and disadvantages of each; planning process as applied to transportation facilities. 4 lec., 2 lab. Prereq: 311. (Spring quarter)

462. Traffic Engineering (3)

Vehicle and driver characteristics, uses of traffic control devices, intersection design and capacity parking characteristics. 2 lec., 2 lab. Prereq: 461. (Fall quarter)

471. Foundation Engineering (3)

Subsurface investigation; types of foundations; design of foundations and retaining structures to meet various soil conditions. 3 lec. Prereq: 370. (Spring quarter) *Wang*

481. Pavement Design (3)

Theory and practice in design, construction, and maintenance of various types of highway and airport pavements; types and uses of various paving materials and mixtures. 3 lec. Prereq: 370. (Fall quarter) *Wang*

490. Special Investigations (1-5)

Special investigation or problem not covered by one of the formal courses. Permits a well-qualified student to pursue individual study under direction of a faculty member. Prereq: perm. (All quarters)

ELECTRICAL

Professors: Gamble, Quisenberry, Smith.

Associate Professors: Fahey (chairman), Hoffee, Klock, McFarland, Miro, Selleck.

Assistant Professors: Chen, Chesak, Meadors.

Instructors: Essman, Hayes, Yoxtheimer.

Lecturer: Cartland.

201. Introductory Laboratory (1)

Electrical engineering laboratory sequence consists of 12 quarter hours of laboratory

work starting with the first sophomore quarter and continuing through the senior year. Each credit requires 8 units of work. Purpose of the laboratory sequence is to acquaint the student with realities of electrical engineering practice. Assignments progress from simple to complex in a ramp function beginning with familiarization of basic instruments and circuits in carefully directed experiments and ending in industrial type research or development projects designed and proposed by the student himself.

202. Introductory Laboratory II (1)

See 201. Prereq: 201.

203. Introductory Laboratory III (1)

See 201. Prereq: 202.

210. Basic Electrical Engineering I (3)

Introductory course in D.C., steady-state single phase A.C., balanced polyphase and magnetic circuits. 3 lec.

211. Basic Electrical Engineering II (3)

Introduction to electronic devices, models, transformers, and steady state performance of rotating machines. 3 lec. Prereq: 210.

212. Basic Electrical Engineering III (3)

Extension of 210, dealing with transients, network theorems, and general network analysis. 3 lec. Prereq: 211.

301. Intermediate Laboratory I (1)

See 201.

302. Intermediate Laboratory II (1)

See 201. Prereq: 301.

303. Intermediate Laboratory III (2)

See 201. Prereq: 302.

310. Linear Systems and Networks I (3)

Differential equation as a model of system, Laplace transform, electrical, mechanical, and electromechanical systems, transfer functions, block diagrams, flow graphs. 3 lec. Prereq: 212-B-C.

311. Linear Systems and Networks II (3)

Sinusoidal response, Fourier series, Fourier integral, frequency response vs. time response, graphical approximations, convolution, polar plots. 3 lec. Prereq: 310.

312. Linear Systems and Networks III (3)

Two part systems, matrices, transmission line as a two part system, filters, systems with time varying parameters. 3 lec. Prereq: 311.

320. Electromagnetics and Materials I (3)

Device-oriented study of electromagnetic properties of materials and processes central to electrical engineering. Conduction in vacuum, metals, semi-conductors, electrolytes and plasma is included. As need arises, basic elements of electromagnetic field theory, classical and quantum statistics, and solid-state theory are developed in appropriate depth. 3 lec. Prereq: 212-B-C.

321. Electromagnetics and Materials II (3)

Follows from 320 with continued device-oriented study of properties of materials and concurrent development field theory. Maxwell's equations are developed and used. 3 lec. Prereq: 320.

322. Electromagnetics and Materials III (3)

Follows from 321 with more circumspect and advanced application of field theory and physical statistics to properties of materials. Emphasis is placed upon engineering design considerations as well as basic properties. 3 lec. Prereq: 321.

330. Energy Conversion (3)

Energy storage in magnetic field, single and multiple excited systems, coupled circuits, relays, transformer theory, other energy conversion systems. 3 lec. Prereq: 212.

331. Energy Conversion II (3)

Single and multiple excited energy converters, revolving field theory, non-sinusoidal magnetomotive force distribution in the air gap, D.C. motors and generators. 3 lec. Prereq: 330.

332. Energy Conversion III (3)

Alternating current machines, synchronous motors and generators, induction motors, and single phase motors. Theory of the generalized machine. Non electromechanical energy conversion. 3 lec. Prereq: 331.

340. Electronic Devices (3)

Physical form, functional operation and theoretical basis of common vacuum, plasma, and solid state electronic devices, including diodes, triodes, tetrodes, and pentodes. Linear, nonlinear and piecewise linear models, and methods of analysis. 3 lec. Prereq: 212.

341. Electronic Circuits I (3)

Circuits using devices studied in 340 are analysed to gain more sound knowledge of utility and limitations of models and methods introduced and developed there. Amplifier circuits. 3 lec. Prereq: 340.

342. Electronic Circuits II (3)

State of art circuits from wave shaping technology are used to illustrate the principles involved and to encourage the beginning of an engineering design philosophy. 3 lec. Prereq: 341.

401. Advanced Laboratory (1)

See 201.

402. Advanced Laboratory II (1)

See 201. Prereq: 401.

403. Advanced Laboratory III (1)

See 201. Prereq: 402.

405. Physical Electronics (3)

Preparation for subsequent detailed study of solid-state devices, gaseous and quantum-electronic devices, intended to provide suitable depth of background in selected pertinent areas of electrical science. 3 lec. Prereq: 322.

406. Solid-State Devices (3)

Study of selected solid-state devices, including a variety of semi-conductor devices with emphasis upon physical reasons for design and application limitations and possibilities for future developments. 3 lec. Prereq: 405. *Fahey*

407. Advanced Electronic Circuits I (3)

Techniques and application in switching, shaping and pulse circuitry. 3 lec. Prereq: 342. *Hoffee*

409. Solid State Instrument Design (3)

Electronic instruments and instrument sub-assemblies including amplifiers, wave-form generators, oscilloscopes, TVM's etc. using various solid state devices, such as diodes, transistors, unijunctions, FET's, and integrated circuits. 3 lec. Prereq: 342.

410. Linear Networks and Systems IV (3)

Topics such as: matrix circuit analysis, topological circuit analysis, properties and methods of simplification of flow graphs, derivation of Mason's and Coates' gain formulae, study of some properties of linear systems. 3 lec. Prereq: 312. *Chen*

411. Network Synthesis I (3)

Introductory course in theory of network design. Topics such as: positive real functions, synthesis of general passive one-ports approximation, parts of network functions. 3 lec. Prereq: 312-D. *Chen*

425. Automatic Control I (3)

Fundamental principles of closed-loop control; formation of linear models for lumped-para-

meter electro-mechanical systems; signal flow graph representation of system equations; stability analysis using Nyquist and Routh-Hurwitz and other techniques; identification of process parameters from experimental data. 3 lec. Prereq: 310. *Quisenberry*

426. Automatic Control II (3)

Specifications of performance; return difference and sensitivity; synthesis of active and passive networks for controller compensation; minor loop compensation. 3 lec. Prereq: 425. *Quisenberry*

427. Automatic Control III (3)

Control of interacting systems; introduction to nonlinear systems; describing function techniques for stability analysis; systems with time-varying parameters; sampled-data systems. 3 lec. Prereq: 426. *Miro*

429. Automatic Process Control and Instrumentation (3)

Systems dynamics; fluids, mechanical and electronic; closed loop process analysis, sensors, records, controllers and magnetic devices. 3 lec. Prereq: 342, 332-E. *Cartland*

430. Theory of Measurements (3)

Dynamics of D.C. instruments, dynamics of A.C. instruments, null measurement techniques, statistical errors, mechanical and magnetic measurements. 3 lec. Prereq: 342.

431. Instrumentation (3)

Remote supervision and remote metering. Process instrumentation analysis, special process assignments, data logging. 3 lec. Prereq: 430.

440. Microwave Theory and Devices (3)

Generation and transmission of electromagnetic energy in frequency range 300 m-lz upwards, discussion of klystrons, magnetrons, lasers, waveguides and resonators including laboratory demonstrations and experiments. 3 lec. Prereq: 322. *McFarland*

441. Antennas (3)

Theory of radiating structures, analysis and synthesis of arrays, impedance, radiation patterns, gain, and discussion of selected practical examples. 3 lec. Prereq: 322. *McFarland*

442. Introduction to Radar and Aircraft Navigation Systems (3)

Principles of microwave radar, discussion of design of radar transmitters and receivers, application to aircraft navigation, comparisons with VOR and ILS given. 3 lec. Prereq: 441. *McFarland*

443. Electromagnetics I (3)

Electrostatics, magnetostatics, boundary value problems and related math techniques, time varying fields, boundary conditions, propagation in dielectric and conducting media, dispersion, elements of waveguide and resonator theory. 3 lec. Prereq: 322-D-C.

450. Control of Electrical Machinery (3)

Magnetic and electronic motor controllers including a study of control theory and application to given problem. 3 lec. Prereq: 332. *Selleck*

451. Symmetrical Components (3)

Circuits analysis by symmetrical components, representation of unbalanced polyphase currents and voltages by component symmetrical sets, solutions of faults on power systems, unbalanced operation of power equipment. 3 lec. Prereq: 331. *Quisenberry*

452. Power Transmission (3)

Economic and electrical principles of electrical power lines, mechanical principles of transmission line design. 3 lec. Prereq: 332. *Selleck*

453. Power Distribution (3)

Fault current calculations and automatic fault isolation on a coordinated distribution system; study of relays, reclosers, sectionalizers and fuse coordination; load and voltage studies of distribution; radial and network systems. 3 lec. Prereq: 332.

454. Electrical Design (3)

Design relationship of electrical machinery, including design of a machine and predetermining of its performance. 3 lec. Prereq: 332. *Selleck*

455. Central Station Design (3)

Application of economic principles to problems of loading, load sharing, and design of electric power central stations. 3 lec. Recommended for undergraduates. Prereq: 332. *Selleck*

460. Analog and Digital Computer Methods (3)

Analysis of systems and preparation of programs for analog or digital computers. Various forms of programming languages will be considered with emphasis upon FORTRAN. Examples and applications will be drawn from a wide range of topics such as control systems, transportation systems, economic systems, computer-aided design, etc. 3 lec. *Smith*

461. Combinational Circuits (3)

Postulates and fundamental theorems of boolean algebra map and algebraic methods for design of combinational logic circuits using

contacts or electronic devices, and minimization techniques. 3 lec. *Miro*

462. Sequential Circuits (3)

Basic ideas from theory of finite-state machines, synthesis of sequential circuits using contact or electronic devices, study of state assignment, synchronous and asynchronous circuits, race conditions, etc. 3 lec. Prereq: 461. *Miro*

463. Digital Computer Design (3)

Functional organization of digital computers for control and data processing, definition of functional characteristics of subsystems, study of current computer component technology. Several types of machines will be designed in varying degrees of detail. 3 lec. Prereq: 462. *Smith*

468. Communication Engineering (3)

Unified approach to study of communications stressing principles common to all transmission systems: measurement of information, Fourier series, Fourier integral, frequency spectrum, time response, amplitude modulation (double and single sideband), frequency modulation, sampling theory, pulse modulation. 3 lec. Prereq: 342. *Essman*

469. Statistical Analysis (3)

Analysis of engineering problems using probabilistic and statistical concepts: probability, discrete and continuous random variables, distribution functions, means, moments, characteristic functions, statistical independence, correlation, estimation and applications to engineering problems. 3 lec. Prereq: 312.

475. Introduction to Plasma Dynamics (3)

Elementary properties and processes of ionized gases and conducting fluids; conductivity, transport phenomena, creation of plasma. 3 lec. Prereq: 322, 405E. *Fahey*

488. Analysis of Engineering Problems (3)

Basic philosophy, methodology and viewpoint developed for solution determination. Comparison made for applicability of empirical and theoretical analytical techniques to both linear and non-linear situations. Characterization via mathematical models utilized for problem synthesis. Trade-off studies as practical technique for parameter value selection and influence-effect relationships. Utilization of variational calculus, sensitivity matrices and game theory as aids to decision-making and meeting value standards—such as reliability. 3 lec. Prereq: 310, 311, perm. *Gamble*

490. Special Investigations (1-6)

Assignments in special areas of interest. (Except in unusual cases, these investigations are experimental in nature.) Prereq: perm.

ENGINEERING GRAPHICS

Associate Professors: Nellis (chairman), Wickham.
Assistant Professors: Andrews, Barnhill, DiLiberto, Sarchet.

1. Engineering Drawing (3)

Beginning engineering drawing course for students of Engineering and Technology and related fields: Orthographic projection, dimensioning, freehand drawing, sections, auxiliary views, vectors, descriptive geometry, and nomography. 5 lec.

2. Engineering Drawing (3)

Basic engineering drawings in areas of pictorial views, intersections and developments, fasteners, details and assemblies. Also introduction to electronic circuits and circuit boards and elementary mechanical design. 5 lec. Prereq: 1.

3. The Slide Rule (1)

Slide rule computations involving multiplication and division, simple powers and roots, trigonometric functions, vectors, logarithms, fractional powers and roots of numbers. Modern 10" Log Log duplex decitrig slide rule is required. 1 lec. Prereq: Math. 6 or perm. Sarchet, staff

15. Technical Drawing (3)

Standard and basic drawing representations as applied industrial products and processes with special emphasis on detail and assembly drawing. 6 lec. Prereq: 1 and 2.

21. Descriptive Geometry (3)

Graphical solutions of problems relating to points, lines, planes, and solids. Space visualization pertaining to interactions of planes and solids. Exercise sheets and practical applications. 5 lec.

22. Nomography (2)

Fundamentals of using conversion scales, alignment diagrams, and proportional charts in graphical solution of equations. 3 lec. Prereq: Math. 6 or perm. and 1.

326. Industrial Arts Drawing (3)

Drawing course designed for industrial arts students covering architectural drafting, delineation, pictoral methods, chalkboard techniques, preparation of teaching aids, teaching methods, and related information of interest to teachers of drawing. 6 lec. Prereq: 1 and 2.

INDUSTRIAL AND SYSTEMS

Professor: Fink.
Assistant Professors: Asfahl, Williams.
Lecturer: Starr.

331. Introduction to Industrial and Systems Engineering (2)

Overview of history and function of industrial engineering using systems approach. Criteria, modes of analysis, measures of system's performance and organization of engineering functions examined. 2 lec. Prereq: Math. 63B.

333. Work Design (5)

Design of work stations and systems of work stations in industrial and service organizations. Integrates previous studies in accounting, motion and time study, engineering materials and metallurgy, and metal processing in order to balance men, materials, and processes to meet specified objectives of organizations. Applications of principles and theory made in laboratory. 4 lec., 2 lab. Prereq: Math 250A or equiv.

430. Engineering Economy (3)

Economics analysis of engineering projects. Topics include time value of money, cost estimation, equipment comparison, breakeven analysis, economic lot size, and replacement analysis. 3 lec. Prereq: Math. 250A or equiv.

431. Advanced Engineering Economy (3)

Continuation of 430. Element of risk explicitly treated by consideration of uncertainties of cost estimates, forecasting, and other economic variables. Emphasis placed on construction and use of mathematical models for analysis of engineering alterations. 3 lec. Prereq: 430.

432. Inventory and Manufacturing Control (3)

Study of properties of manufacturing facilities with particular emphasis on relationships between production schedules and inventory attributes. Deterministic lot size models, reorder point analyses, and periodic probabilistic inventory models examined. Production systems with multiple products and/or multiple-component products designed under management constraints of output rate and quality, inventory maxima and minima, and product schedules. Includes simulation studies and information flow systems. 3 lec. Prereq: Math. 250A or equiv. Williams

433. Industrial Computer Applications (3)

Designing systems for solution of complex industrial problems utilizing digital computers and data processing equipment. Stresses user-oriented programs and advanced format techniques. Applications include use of magnetic tapes, library routines, and unit record equipment. 2 lec., 2 lab. Prereq: Math. 250A. CS142 or equiv.

434. Network Analysis and Scheduling (3)
Sequencing and scheduling in job shops, line balancing and scheduling for production lines, engineering project planning using such techniques as PERT and critical-path method. 3 lec. Prereq: Math. 250A or equiv. *Williams*

435. Quality Control and Reliability (3)
Industrial techniques for process control, acceptance sampling by attributes and by variables, inspection and test methods, and reliability measurement and improvement. Operating characteristics and design of sampling plans. 3 lec. Prereq: Math. 250A or equiv.

439. Information Systems Engineering (3)
Design of industrial information systems. Storage, retrieval, and transmission by automatic data processing equipment is considered. 3 lec. Prereq: 433 or equiv.

440. Industrial Plant Design I (3)
Quarter report covering design of an industrial plant for manufacturing one or more specific products. Includes manufacturing planning, equipment selection, jig-fixture design, materials handling system, plant layout, production scheduling, inventory control, and cost analysis. 2 lec., 2 lab. Prereq: 333, 430, 432.

441. Introduction to Operations Research (3)
Study of basic methodology of operations research in solution of industrial, engineering, and other problems. Emphasis on applications and mathematical structure of such topics as inventory models, queuing theory, sequencing, and linear programming. 3 lec. Prereq: Math. 250A or equiv., 430. *Williams*

444. Applications of Mathematical Programming (3)

Linear and non-linear systems techniques for optimum solution of industrial, engineering, and other problems. Topics include assignment problem, transportation problem, simplex method, approximate methods, dual problem, sensitivity analysis, and dynamic programming. 3 lec. Prereq: perm. *Williams*

445. Industrial Plant Design II (3)

Continuation of Industrial Plant Design I. Design of inventory policies. Fitting mathematical models to production scheduling applications. Design of quality control and scrap control systems. 2 lec., 2 lab. Prereq: 440.

447. Elements of Behavior Systems Engineering (3)

Introduction to elements of Behavior Systems analysis, prediction, design, and control. Properties of stimulus-response reflex as a behavior system input-output function ex-

amined. Measures of behavior strength presented. Probability control function of reflex reinforcement is examined. Elementary applications to engineering and industrial situations such as man-machine systems, crew design problems, organization structure analysis, behavior systems communication, and behavior systems management discussed. 3 lec. Prereq: perm. *Fink*

448. Man-Machine Systems (3)

Introduction to principles of man-machine systems design. Examines role of human operator as a subsystem in a complex man-machine system. Beginning with an overview of stimulus-response characteristics of human behavior systems, course proceeds through optimum design principles for information displays, equipment controls, workplace environments, and life-support systems. Successive Validation Technique for optimum design of complex, integrated man-machine systems is examined. Applications to current industrial, aerospace, and weapon systems are considered. 3 lec. Prereq: perm. *Fink*

449. Behavior Systems Management in Engineering Industry (3)

Applies principles of behavior systems engineering to problems of engineering management. Behavior systems analysis is brought to bear upon engineering organization structure and function with respect to problems of prediction, design, and control of engineering outputs. Systematic examination made of job configurations of design and production engineers, technical assistants, project engineering managers, chief engineers, scientific and research staff, and engineering administrators. Relations among various engineering job levels examined. Applications and examples drawn from existing engineering industry situations. 3 lec. Prereq: perm. *Fink*

489. Special Investigations (1-6)

Prereq: perm.

490. Advanced Problems in Computer Applications (1-6)

Special investigations of advanced industrial and systems engineering problems involving use of digital or analog computers. Prereq: perm.

MECHANICAL

Professor: Black (chairman).

Associate Professors: Adams, Beale, Lausche, Hicks.

Assistant Professor: Sweeney.

301. Kinematics of Machines (3)

Analytical and design techniques for use in analysis and synthesis of basic mechanisms,

such as linkages, cams, gears, and mechanical trains, that are used to obtain specific motions in machines. 3 lec. Prereq: CE 321 or with CE 321. *Sweeney*

302. Dynamics of Machines (3)

Determination of equations of motion and inertia forces in machines including an introduction to single degree of freedom vibrating systems, balancing of rotating elements, fly-wheels, engine balancing, and motion of non-rigid machine elements. 3 lec. Prereq: 301 and CE 321. *Sweeney*

313. Metal Processing (3)

Mechanics of metal cutting; friction, wear and lubrication in machining. Production processes and economics. 3 lec. Prereq: CE 220. *Black*

321. Introduction to Thermodynamics I (3)

First and second laws of classical thermodynamics. Energy, entropy and other properties of matter as explained by atomic and statistical theories. For students in mechanical, electrical, and civil engineering. 3 lec. Prereq: Math. 63A, B, C; Phys. 113 *Beale*

322. Introductory Thermodynamics Laboratory (1)

Applications of basic thermodynamics to simple devices. Emphasis on modern measurement techniques and comparison of actual with ideal processes. 2 lab. Prereq: 321 or with 321. *Sweeney*

323. Thermodynamics II (3)

Thermodynamic relations for real and perfect gases, mixtures of gases, and combustion calculations. 3 lec. Prereq: 321. *Hicks*

324. Thermodynamics II Laboratory (1)

Intermediate laboratory course involving fluid flow, metering elements, combustion calorimeters, Orsat analyzers, kinetic theory, and proximate analysis. 2 lab. Prereq: 323 or with 323. *Sweeney*

325. Thermodynamics III (3)

Fundamentals of compressible fluid flow, metering calculations, fluid flow in rotating machinery, compressors. 3 lec. Prereq: 321. *Hicks*

327. Steam Power Plants (3)

Fuels, principles of combustion, stationary boilers, grates, stokers, furnaces, coal pulverizers, economizers, pre-heaters, superheaters, stacks, forced and induced draft, boiler-feed pumps, steam engines and turbines, and condensers. 3 lec. Prereq: 321 or with 321; Math. 163A, B. *Lausche*

329. Heat-Power Laboratory (2)

Senior laboratory course involving more complex experiments on turbines, steam generators, heat-transfer equipment, rotating machinery, air-compressors, internal-combustion engines, and refrigeration equipment. 4 lab. Prereq: 324 or perm. *Hicks*

403. Machine Design I (3)

Applications of mechanics, mechanisms, materials, and mechanical processes to design and selection of machine members and units of power transmission. 3 lec. Prereq: 301, 313, and ChE 233. *Black*

404. Mechanical Design (3)

Application of established logical methods and approaches used to technically define engineering problems and appropriate steps needed to achieve satisfactory functional solutions. Information needed for these solutions can include various combinations of fundamentals from such basic areas as engineering materials, design of machine elements, dynamics of machines, vibrations, heat transfer, fluid dynamics, thermodynamics, electrical circuits, electronics, etc. Emphasis on creative aspects of design. 3 lec. Prereq: 403 or with 403. *Sweeney*

412. Heat Transfer I (3)

Basic concepts of conduction and radiation, steady state and transient conditions, multi-dimensional problems, radiation. 3 lec. Prereq: 321. *Hicks*

413. Heat Transfer II (3)

Dimensional analysis, fundamentals of convection in various modes, heat exchanger design. 3 lec. Prereq: 412. *Hicks*

423. Thermodynamic Analysis (3)

Analytical study of gas and vapor power cycles including staging reheat and/or regeneration. Combined cycles. Cycle effectiveness and availability. Various refrigeration cycles. 3 lec. Prereq: 321. *Hicks*

424. Gas Dynamics I (3)

One-dimensional gas dynamics-isentropic flow, flow with heat transfer, friction, shocks, generalized one-dimensional flow. Applications to propulsion systems. 3 lec. Prereq: 423 or perm. *Beale*

425. Gas Dynamics II (3)

One-dimensional gas dynamics-isentropic flow, flow with heat transfer, friction, shocks, generalized one-dimensional flow. Applications to propulsion systems. 3 lec. Prereq: 423, 424. *Beale*

480. Colloquium (1)

Series of lectures, mainly by speakers outside of the engineering field, on cultural and professional subjects, with discussion moderated by the speaker. 1 lec. Prereq: Senior rank. (Winter quarter)

484. Problems in Thermal Machinery I (3)

Reading and laboratory work on current problems in thermal machinery. Student may elect either 2- or 3-quarter sequence. 3 lec. Prereq: perm. *Beale*

485. Problems in Thermal Machinery II (3)

Reading and laboratory work on current problems in thermal machinery. Student may elect either 2- or 3-quarter sequence. 3 lec. Prereq: perm. *Beale*

486. Problems in Thermal Machinery III (3)

Reading and laboratory work on current problems in thermal machinery. Student may elect either 2- or 3-quarter sequence. 3 lec. Prereq: perm. *Beale*

488. Engineering and Technological Development (3)

Origin and evolution of engineering as related to technological progress within our society. Attention is also given certain social, economic, and political aspects as they influence rate of technical development. 3 lec. Prereq: senior rank, perm. *Sweeney*

489. Special Investigations (1-6)

Prereq: perm.

491. Mechanical Vibrations I (3)

Characteristic phenomena of mechanical vibrations encountered in machines and structures (of one-degree-of-freedom) in their quantitative investigation. Simple-harmonic motion; free, transient, and forced vibrations; application of phase-plane methods; damping effects; electrical analogies; principles of isolation; analog computation. 2 lec., 2 lab. Prereq: Math. 163A, B; and CE 321. *Adams*

492. Mechanical Vibrations II (3)

Application of Laplace Transform and mobility methods; systems of several degrees of freedom; analog computation. 2 lec., 2 lab. Prereq: 491. *Adams*

493. Lubrication and Bearing Analysis (3)

Development of concepts of hydrostatic and hydrodynamic lubrication and their application to different bearing geometries; boundary lubrication; bearing materials and methods of lubrication. 3 lec. Prereq: perm. *Sweeney*

494. Advanced Machine Design (3)

Advanced considerations in design and analysis of machine members including residual stresses and fatigue in metals, stress propagation, and creep. 3 lec. Prereq: 403. *Black*

495. Advanced Thermodynamics (3)

Kinetic theory, classical and quantum statistical mechanics with application to engineering devices. 3 lec. Prereq: perm. *Hicks*

ENGLISH

ENGLISH LANGUAGE AND LITERATURE LINGUISTICS

Regents Professor: Kendall.

Distinguished Professors: Summers, Stone.

Professors: Culbert, King, E. Thompson, Thayer, Wells (chairman), Whan.

Associate Professors: Butterworth, Fieler, Holmes, Jones, Marks, Purdum, Roe, Stanton, Swardson.

Assistant Professors: Bottorff, Brown, Coronou, Cronin, Davis, Fitch, Flannagan, Gingerich, Hartman, Heidtmann, Johnson, Katranides, Kehler, Knecht, Knies, Kuhre, Mitchell, Pickard, Quattrocki, Ramsey, Reid, D. Schneider, Schulte, Sinclair, J. Thompson.

Lecturers: Keyes, Madden, Matthews, Rogers, Schmidt, G. Schneider, Tevis.

See p. 227 for English major requirements.

ENGLISH LANGUAGE AND LITERATURE

70. English Composition (3)

Principles and practice of writing. Student examines various forms of exposition, argument, and narrative. Writes a series of essays involving problems in argument, analysis, development and style.

80. English Composition (3)

Writing principles and practice. Student examines various literary forms and writes a series of essays which reflect his understanding of literature. Transfer students who have not completed six hours of composition should register for English 80. Prereq: 70.

98. Honors Freshman English I (3)

Language and rhetoric, as they are relevant to problems of composition. Students in this course write a minimum 5,000 words in practical exploration of the subject. Prereq: Selection by Honors College.

99. Honors Freshman English II (3)

Literature and writing—introduction in continuing discourse about literature and the nature of its relevance to man. Prereq: Selection by Honors College.

101. Interpretation of Fiction (3)

Study of forms and techniques of the art of fiction. Prereq: 80.

102. Interpretation of Poetry (3)

Intensive reading of selected poems from all periods of English and American literature and study of forms and techniques. Prereq: 80.

103. Interpretation of Drama (3)

Analysis of dramatic forms. Prereq: 80.

105. Introduction to Comparative Literature I: The Modern Tradition (3)

Selected literary works which provide background for, and express the modern sensibility in Western literature. Prereq: 80.

115. American Literature (3)

Themes in American literature of the 19th and 20th centuries especially relevant to the non-major. Prereq: 80.

116. English and Continental Literature (3)

Themes in English and European literature especially relevant to the non-major. Prereq: 80.

201. Shakespeare, The Histories (3)

History plays. Prereq: 6 hrs. above 100. (Fall quarter)

202. Shakespeare, The Comedies (3)

Comedies. Prereq: 6 hrs. above 100 (Winter quarter)

203. Shakespeare, The Tragedies (3)

Principle tragedies. Prereq: 6 hrs. above 100. (Spring quarter)

204. English Bible

Selected prose and poetry of Old and New Testaments. Prereq: 6 hrs. above 100.

205. Introduction to Comparative Literature II: The Classical Tradition (3)

Selected classical texts, sometimes alone and sometimes in conjunction with modern texts, for the purpose of defining the classical sensibility in Western literature. Prereq: 6 hrs. above 100.

206. Studies in Oriental Literature (3)

(a) Introduction to the cultural background of Oriental literature. (Fall quarter); (b)

Study of classical Oriental literature. 206a recommended. (Winter quarter); (c) Study of modern Oriental literature. 206a recommended. (Spring quarter)

229. The Structure of American English (3)

Introduction to sound structure and grammatical structure of American English in light of contemporary linguistic theory. Prereq: 6 hrs. above 100.

231. Advanced Composition (3)

Study of past and present forms of the essay; practice in a variety of non-fiction prose techniques; stress on development of a mature prose style. Prereq: 6 hrs. above 100.

290. Creative Writing (3)

Beginning course in creative writing, English 290 will concentrate on processes of invention as they lead to works of fiction and poetry. Student manuscripts will be criticized; creative literary works of recognized importance will be analyzed; and the act of writing will be a continuing practice in English 290. Prereq: 101, 102, 103.

297. Honors Studies in Fiction (3)

Forms and techniques of the art of fiction. Honors College parallel to English 101, Interpretation of Fiction. Prereq: Selection by Honors College.

298. Honors Studies in Poetry (3)

Intensive study of selected poems from all periods of English and American literature and study of forms and techniques. Honors College parallel to English 102, Interpretation of Poetry. Prereq: Selection by Honors College.

299. Honors Studies in Drama (3)

Intensive study of the nature of drama, analysis of dramatic forms. Honors College parallel to English 103, Interpretation of Drama. Prereq: Selection by Honors College.

300. The Teaching of High School English (5)

Content and methods of presentation for teaching of grammar, composition, and literature in high school. Prereq: 18 hrs. above 100 and junior rank.

301. The History of the English Language (3)

Development of language in phonology, grammar, and vocabulary from Anglo-Saxon times; readings in early English. Prereq: 12 hrs. above 100.

302. The Development of American English (3)

History of the English language in America; regional and social dialects, special developments in vocabulary, pronunciation, spelling, and grammar. Prereq: 12 hrs. above 100.

311. Early English Literature (3)

Major works and genres of Old and Middle English literature including Chaucer. Prereq: 12 hrs. above 100.

312. Renaissance Literature (3)

Major works, writers, and genres of the English Renaissance, excluding Shakespeare. Prereq: 12 hrs. above 100.

313. Restoration and Neo-Classical Literature (3)

Major works, writers, and genre of the Restoration and Neo-classical periods. Prereq: 12 hrs. above 100.

314. Romantic and Victorian Literature (3)

Major works, writers, and genres of the Romantic and Victorian periods. Prereq: 12 hrs. above 100.

321. American Literature to the Civil War (3)

Major works, writers, and genres of American literature before the Civil War. Prereq: 12 hrs. above 100.

322. American Literature Since the Civil War (3)

Major works, writers, and genres of American literature since the Civil War. Prereq: 12 hrs. above 100.

331. Twentieth-Century British and American Literature (3)

Some major works, writers, and genres of British and American literature in this century. Prereq: 12 hrs. above 100.

341. Themes in Comparative Literature (3)

Study of a significant literary theme in Western literature, for example: concept of the Baroque, concept of time in Western literature, use and reinterpretation of myth in drama, concept of dissonance in poetry. Subject matter of this course will change from quarter to quarter so that the course may be taken more than once for credit. Prereq: 12 hrs. above 100.

393. Creative Writing Workshop: Fiction (3)

Designed to give students instruction and practice in writing of fiction, concentrating on development of narrative techniques, character

building in stories, "staging" scenes in a narrative, etc. Prereq: 290. (Fall quarter)

394. Creative Writing Workshop: Non-Fiction (3)

Will concentrate on writing non-fiction, and will explore general techniques of prose as they apply to fictionalized biography and the literary essay and as they are used to dramatize effectively works that are generally considered non-fiction. Prereq: 290. (Winter quarter)

395. Creative Writing Workshop: Poetry (3)

Will be focused upon experience and language of poetry, and upon practice of writing poetry. Prereq: 290. (Spring quarter)

411. Studies in Early English Literature (3)

Intensive study of some aspect of Early English literature—author, genre, theme. Prereq: 311 and senior rank. (Winter quarter)

412. Studies in Renaissance Literature (3)

Intensive study of some aspects of Renaissance literature—author, genre, theme. Prereq: 312 and senior rank. (Fall and Spring quarters)

413. Studies in Restoration and Neo-Classical Literature (3)

Intensive study of some aspect of Restoration and Neo-classical literature—author, genre, theme. Prereq: 313 and senior rank. (Winter quarter)

414. Studies in Romantic and Victorian Literature (3)

Intensive study of some aspect of Romantic and Victorian literature — author, genre, theme. Prereq: 314 and senior rank. (Fall and Spring quarters)

421. Studies in American Literature to the Civil War (3)

Intensive study of some aspect of American literature before the Civil War — author, genre, theme. Prereq: 321 and senior rank. (Winter quarter)

422. Studies in American Literature from the Civil War (3)

Intensive study of some aspect of American literature since the Civil War — author, genre, theme. Prereq: 322 and senior rank. (Fall and Spring quarters)

431. Studies in Contemporary Literature (3)

Intensive study of some aspect of British and American literature of this century — author, genre, theme. Prereq: 331 and senior rank. (Fall quarter)

441. Studies in Comparative Literature (3)

Small seminar-type course devoted to a selected topic — a literary movement, a period, a genre, a figure, a problem — in which emphasis is placed on independent reading and criticism. Prereq: 341 and senior rank. (Winter quarter)

451. Studies in Criticism (3)

Study of some aspect of history and of problems in critical theory and its application. Prereq: 18 hrs. above 100 and senior rank. (Winter and Spring quarters)

461, 462, 463. Colloquium (3 each)

Specific interdisciplinary problems to be assigned each quarter. Prereq: senior rank. (461, Fall quarter); (462, Winter quarter); 463, Spring quarter)

490. Independent Reading (1-3)

Directed individual reading and research. Prereq: perm.

496. Advanced Workshop in Creative Writing (3)

Limited to six students, will consist largely of independent work in a particular literary genre. Students will meet together or individually with instructor, according to needs of particular work of that quarter. Prereq: 6 hrs. of creative writing and perm. (Spring quarter)

499. Honors Project (3)

Completion of individual writing project for B.A. with Honors in English. Prereq: perm.

LINGUISTICS**170. The Nature of Language (3)**

Non-technical linguistic survey of nature of human language. (Spring quarter)

370. Language and Linguistics (3)

Introductory survey of linguistics. Prereq: perm. (Fall quarter)

371. Language, Culture, and Personality (3)

Survey of social, cultural, and psychological functions of language. Prereq: 170 or 370. (Winter quarter)

372. Applied Linguistics, Elementary I (4)

Intensive oral study of an uncommon language such as Arabic, Hausa, Malay, Modern Greek, Serbo-Croatian, Swahili, Vietnamese, Yoruba, etc. (Fall quarter)

373. Applied Linguistics, Elementary II (4)

Intensive oral study of an uncommon language

such as Arabic, Hausa, Malay, Modern Greek, Serbo-Croatian, Swahili, Vietnamese, Yoruba, etc. Prereq: 372 or equiv. (Winter quarter)

374. Applied Linguistics, Elementary III (4)

Intensive oral study of an uncommon language such as Arabic, Hausa, Malay, Modern Greek, Serbo-Croatian, Swahili, Vietnamese, Yoruba, etc. Prereq: 373 or equiv. (Spring quarter)

375. Applied Linguistics, Intermediate I (4)

Intensive study of spoken and written aspects of an uncommon language. Prereq: 374 or equiv. (Fall quarter)

376. Applied Linguistics, Intermediate II (4)

Intensive study of spoken and written aspect of an uncommon language. Prereq: 375 or equiv. (Winter quarter)

377. Applied Linguistics, Intermediate III (4)

Intensive study of spoken and written aspect of an uncommon language. Prereq: 376 or equiv. (Spring quarter)

FINANCE

Professor: Blythe (chairman).

Associate Professors: Freund, Mikhail (visiting).

Assistant Professors: Etter, Patterson.

Instructor: Bender.

201. Personal Finance (3)

Problems in managing personal finances. Budgeting expenditures and savings. Planning a life insurance program. Investment in savings accounts, securities, annuities, and other financial assets. Use of consumer and mortgage credit. Personal taxes. Prereq: open only to juniors and seniors not working toward the Bachelor of Business Administration degree.

310, 311. Managerial Finance (3, 3)

Role of financial management in business enterprise; financial analysis; planning needs for short-term and long-term funds; planning for profits; capital budgeting; internal management of working capital and income; raising funds to finance growth of business enterprises. Prereq: Acct. 102.

323. Money, Banking and Economic Activity (4)

Nature of money, debt, and credit; relations between money and finance and economic activity. Functioning of commercial banking system and other financial institutions. Operations and powers of Federal Reserve System and Treasury. Monetary policy and monetary theory. Prereq: Ec. 2 or 302. See also Ec. 323.

331. Risk and Insurance (3)

Study of social importance of risk and its place in personal, business and national life, including principles and methods of handling risk. Special interest in technique of insurance. Prereq: Ec. 2 or 302.

341. Investments (4)

Principles in determination of investment media for individual and institutional portfolios. Sources of investment information; analysis of financial statements; investment risks and yields. Securities markets and their behavior. Prereq: 311.

351. Money and Capital Markets (3)

Flow of funds, interest-price movements, and institutions of money and capital markets. Trading in federal funds, open-market paper, and other money market instruments. Portfolio policies of institutions active in mortgage loan market, corporate securities markets, and markets for government securities and municipal obligations. Consideration of effects on financial markets of Federal Reserve and Treasury policies. Prereq: 311.

355. International Finance (3)

Analysis of problems in international finance. Financing international trade and other transactions; foreign exchange market and exchange rates; international payments system. Foreign central banking and current developments in international financial cooperation. Prereq: 311.

432. Property and Casualty Insurance (3)

Analysis of principal types of property and casualty insurance policies with respect to protection afforded policyholder, his obligations, and cost of protection. Policies studied include fire and extended coverage, allied lines, business interruption, inland marine, automobile, general liability, theft, and bonds. Subjects of risk, insurance law, and multiple-peril policies also covered. Prereq: 311.

436. Life Insurance (3)

Fundamental economics of life insurance. Principles and practices of life insurance including types of contracts, group and industrial insurance, and annuities. Prereq: Ec. 2 or 302.

442. Security Analysis (4)

Problems of selecting securities for various investment purposes. Industry structure, volume-price-cost relationships, management, financial position, terms of securities contracts, and market price behavior are studied to determine attractiveness of securities. Portfolio construction considered. Prereq: 341.

451. Monetary Policy (3)

Policy making machinery of monetary institutions. Relationship of Federal Reserve System, Treasury, and commercial banking system; case studies in formulation and implementation of monetary policy. Effectiveness of monetary policy actions. Prereq: 323 or 12 hrs. of economics. See also Ec. 451.

453. Monetary History of the United States (3)

Correlation of developments in American history with development of monetary institutions, policy, and theory. Evolution of commercial and central banking and relationship of these to economic activity in history of the United States. Prereq: 323. See also Ec. 453.

461. Problems in Business Finance (4)

Case study of financial management in business enterprises. Problems in planning current and long-run financial needs, profit planning, allocation of funds, raising funds, dividend policies, expansion and combination, recapitalization, and reorganization. Prereq: 311.

463. Capital Allocation (3)

Planning capital outlays. Methods for ranking investment proposals. Theories of financial structure and cost of capital. Approaches to investment decisions under conditions of uncertainty. Prereq: 311.

465. Mathematical Analysis of Financial Decisions (3)

Application of quantitative methods to financial management, with special emphasis on systems approach to evaluating proposed financial decisions. Prereq: 311.

481. Research in Finance (1 to 8)

Prereq: 15 hrs. of finance and perm.

491. Seminar in Finance (2 to 4, max. 8)

Prereq: 15 hrs. of finance and perm.

FRENCH

See Modern Languages.

GENERAL STUDIES**BIOLOGY****COMPUTER SCIENCE****HUMANITIES****MATHEMATICAL WORLD****PHYSICAL SCIENCE****SOCIAL SCIENCE**

BIOLOGY**1.* General Biology I (3)**

Fundamental similarities and differences among living organisms; their protoplasm, cells, tissues, and physiology. 2 lec., 2 lab. (Fall, Winter and Spring quarters)

2.* General Biology II (3)

Survey of principal animal groups, emphasizing comparative morphology, classification, life histories, and physiology. 2 lec., 2 lab. Prereq: 1. (Winter and Spring quarters)

3.* General Biology III (3)

Survey of principal plant groups, emphasizing comparative structure, life histories, and classification. Basic principles of heredity, evolution, and ecology are introduced. 2 lec., 2 lab. Prereq: 1 (Fall and Spring quarters)

368. Teaching of Biology (3)

Consideration of purposes of high school biology, instructional materials, classroom methods with emphasis on laboratory techniques, sources of laboratory equipment and supplies. 3 lec. Each student required to observe in a Biol. 1, 2, or 3 lab. during the quarter. Prereq: 18 hrs. biological sciences. (Fall and Spring quarters) *Allen, Vermillion*

*Designed primarily for non-science majors. No credit given if Botany 4, 5, 6 or Zoology 3, 4 have been completed. Approval to apply Biology 1, 2, and/or 3 toward a Botany or Zoology major must be obtained from Dean of the College of Arts and Sciences and Chairman of the Department of Botany or Zoology. Not open to juniors or seniors.

COMPUTER SCIENCE

The major requirements for the B.S. degree in Computer Science include 101, 102, 151, 152, 251, 252, 253, 261, 268, 276, 281, the junior-senior seminar, and a senior thesis. Additional requirements and suggested electives assure an integrated subject matter coverage, while provisions for electives allow a broad general education.

101-102. Algorithms and ALGOL (3)

Concept and properties of an algorithm; ALGOL as the formal language and notation for describing algorithms; analysis of computational problems, development of algorithms for their solution, and the use of ALGOL to accomplish the solution. Prereq: Math. 63A, 63B, 63C.

150. Computer Science—Survey (1)

Digital computer machine; its components, operation, control, history, and use. Particular emphasis placed on the developing influence of the digital computer in business, science, and the humanities. Automation examined.

151. Non-numeric Computer Programming and Logic (3)

Introduction to principles and practice of computer solution of problems not involving extensive numerical calculations. Typical problems exist in natural language analysis and translation, literature search and collation, non-numeric mathematics, artificial intelligence, pattern recognition, etc. Prereq: sophomore rank.

152. Introduction to Digital Computer Programming for Business (3)

Principles and practice of computer solution of problems in business. Typical problems exist in accounting, quantitative methods, and management. Artificial language COBOL used. (Fall and Spring quarters)

153. Introduction to Digital Computer Programming for Engineering and the Physical Sciences (3)

Principles and practice of computer solution of problems involving extensive numerical calculations as found in the physical sciences, engineering, and numerical mathematics. Prereq: Math. 63A, 63B, 63C.

154. Introduction to Digital Computer Programming for Behavioral, Educational, and Biological Scientists (3)

Problem organization for computer solution using scientifically oriented algorithmic languages such as FORTRAN and PL/1. Concepts of and practice in logical problem analysis, artificial language syntax and semantics, problem flow, testing and debugging, input/output, artificial intelligence, and use of auxiliary storage using appropriate problems in the students' field of interest. Prereq: sophomore rank.

208. Data Processing Concepts (3)

Concepts, theory, and practice of data processing as practiced in industry and government. Several problems studied in depth, with solutions being accomplished. (Spring quarter)

251-252-253. Assembler, Compilers, and Control Systems (3-3-3)

Three-term sequence that covers solution of algorithms by use of an assembler language, use of macro instructions, construction of interpreters and compilers, and control of a computer by a monitor, executive routine, or operating system. Prereq: 102 and 151. (Fall, Winter and Spring quarters)

261-262. Numerical Methods (3-3)

Solution of equations, interpolation and approximations, numerical differentiation and

integration, numerical solution of initial value problems in the solution of ordinary differential equations, the solution of linear systems by direct and iterative methods, matrix inversion, evaluation of determinants, eigenvalues, and eigenvectors of matrices. Introduction to numerical solution of partial differential equations. Selected algorithms programmed for solution on a digital computer. Prereq: 102 and Math. 444. (Winter and Spring quarters)

276. Introduction to Systems (3)

Analysis of systems and their applications in the solution of complex problems. Implications involved in design of a system as viewed from the standpoint of management, systems analysts, and equipment are examined. Interactions of subsystems are stressed. Prereq: 208, Accounting 103.

281. Information Structures (3)

Concepts of information; introduction to information theory as proposed by Shannon; organization and structuring of information; measurement, and manipulation of information; hierachial storage and methods of access. Prereq: 102 and 151.

291-292-293. Junior Seminar (1-1-1)

Formal presentation by individual students of specified topics from current literature in computer science and defense of the interpretations and conclusions. Concurrent with 491-492-493. Participation by all junior and senior students is required and by all faculty is expected. Prereq: junior rank.

401-402. Advanced Computational Methods (3-3)

Computer simulation utilizing logical, numerical, and Monte Carlo modeling to represent systems. Linear and quadratic programming. PERT networks. Hueristic programming including Polya's and Hadamards's roles in mathematical intuition. Dynamic programming and Belman's principles. Prereq: 262 and 253.

410-411. Systems Analysis (3-3)

Integrated systems and total systems. Subsystems and their interaction with other subsystems. Various phases of system design examined. Definition of needs, objectives, timing, cost, and reports studied in theory and by practice. Prereq: 276 and 281.

490. Special Problems in Computer Science (1-15)

Special project in one of the various subfields of computer science or an application area will be studied, investigated, and/or solved by an individual student or small group working in a close relationship with the instructor.

Suitable problems might include construction of a compiler for a special purpose artificial language, perfection of a computer code to solve some significant problem, or study of a coherent subfield of computer science. Prereq: perm.

491-492-493. Senior Seminar (1-1-1)

Formal presentation by individual students of specified topics from current literature in computer science and defense of the interpretation and conclusion. Concurrent with 291-292-293. Participation by all juniors and seniors is required and by all faculty is expected. Prereq: senior rank.

499. Senior Thesis (9)

Solution of a significant problem within the field under the direction of a senior faculty member. Prereq: senior rank.

HUMANITIES

7, 8, 9. Humanities—Great Books (3, 3, 3)

Guided reading and discussion of literary masterpieces from various countries and periods of history: literature is treated as an art and a thoroughly civilizing influence. Not open to juniors and seniors. *Murphy, Rogers, Staff*

207, 208, 209. Humanities—Great Books (3, 3, 3)

Similar to 7, 8, 9, but open only to sophomores, juniors, and seniors who have passed English 3 or 7. Not open to freshmen or to those who have had 7, 8, 9. *Eaton, Murphy, Staff*

MATHEMATICAL WORLD

109A,B. The Mathematical World — Number and Space (3, 3)

Terminal liberal arts courses for students with little or no background in college mathematics. Basic topics from elementary and advanced branches of mathematics treated descriptively and in historical perspective. Not recommended to satisfy science or mathematics requirements. Offered upon sufficient demand and with approval of Mathematics Department chairman. Prereq: perm. of instructor.

PHYSICAL SCIENCE

2, 3, 4. Physical World (3, 3, 3)

General physical science course designed for non-science majors. Fundamental ideas of our physical environment introduced through concepts developed from physics and astronomy. Not open to juniors and seniors. 2 lec., 2 lab. Part of a three quarter sequence.

102, 103, 104. Physical World (3, 3, 3)

For non-science majors; provides an integrated treatment of the physical sciences. Attention given to historical aspects of growth of man's great conceptual schemes concerning the universe. Includes basic classical physics and astronomy of solar system. Not open to freshmen or to those who have had physical science 2, 3, 4. 2 lec., 2 lab.

SOCIAL SCIENCE**10. Social Science—Citizenship in the Modern World (4)**

General social science course designed to acquaint students with chief competitors of American democratic heritage (communism, fascism, and others). Not open to juniors and seniors except by special perm. With Sociology 1 or Social Science 9, Social Science 10 meets University College requirement in social science for one year's sequence; also meets requirement for a social science elective in other colleges.

104. Geographic Regions and World Affairs (3)

Study of selected world regions stressing population characteristics and economic and political development based on geographic factors in problem areas today. (Fall quarter)

111. Meteorology (3)

General survey of physical principles of weather. 2 lec., 2 lab. (Fall and Winter quarters) *Wilhelm*

112. Climatology (3)

Physical and regional basis of climate. 2 lec., 1 lab. Prereq: 3 or 111. (Winter quarter) *Wilhelm*

113. Elements of Physical Geography (3)

Systematic survey of earth-sun relationships, landforms, weather and climate, soils, and natural vegetation as background for cultural geography which is recommended to follow this course. Not open to geography majors or those who have had 3 or 213.

114. Elements of Cultural Geography (3)

Systematic survey of settlement, population, and economic activities in geographic studies. Not open to geography majors.

115. Economic Geography—Agriculture (3)

Description and analysis of world agriculture based on geographic factors. (Fall and Spring quarters) *Korsok*

116. Economic Geography—Mining and Manufacturing (3)

Description and analysis of world's mining and manufacturing based on geographic factors. (Winter quarter) *Korsok*

172. Human Geography (3)

Systematic study of interaction of man and his societies with land. Emphasis on man's adaptation to and modification of earth's surface. (Fall and Spring quarters) *Wilhelm*

202. Geography of Eastern United States and Canada (3)

Systematic and regional survey of Eastern United States and Canada. Emphasis on cultural and economic development as conditioned by ethnic and environmental effects. (Fall and Spring quarters) *Wilhelm*

204. Geography of Western United States and Canada (3)

Systematic and regional survey of Western United States and Canada. Emphasis on cultural and economic development as conditioned by ethnic and environmental effects. (Winter quarter) *Wilhelm*

GEOGRAPHY AND GEOLOGY

Professor: Sturgeon (chairman).

Associate Professors: Baker, Fisher, Korsok (associate chairman), Yeats.

Assistant Professors: Howard, Phelps, Wilhelm.

Instructors: Berger, Bernard, Heien.

GEOGRAPHY

The major requirement for the A.B. degree is 45 quarter hours in approved geography courses including 111, 112, 115, 116, 172 and Geol. 3 and 4.

3. Introductory Physical Geography (3)

Study of elements of physical environment; earth-sun relationships, landforms, weather and climate, soils and vegetation. Not open to juniors and seniors or students who have had 113 or 213. *Berger*

20. World Regional Geography—Eurasia and Pacific (3)

Study of physical background, land utilization and cultural development of Europe, Asia, and the Pacific World. Not open to juniors and seniors. (Fall quarter) *Korsok*

21. World Regional Geography—Western Hemisphere and Africa (3)

Study of physical background, land utilization, and cultural development of North and South America and Africa. Not open to juniors and seniors. (Winter quarter) *Korsok*

213. Advanced Physical Geography (3)

Application of physical geographic principles to specific research problems. Prereq: 6 hrs. (Spring quarter)

215. Cartography (3)

Elementary principles of map drawing, map projections, and graph making. Prereq: perm. (Spring quarter) *Berger*

218. Air Photo Interpretation (3)

Survey of principles and techniques used in air photo interpretation for geographers, geologists, and military, community planners, engineers, etc. Prereq: perm. (Fall and Spring quarters)

231. Geography of Ohio (3)

Detailed regional study of physical background, settlement, and economic development. (Winter quarter)

232. Conservation of Natural Resources (3)

Problems in conservation of soils, water, minerals, forests, and wildlife as related to land use and interrelation of these various factors. (Fall quarter)

301. Geography of Soviet Union (3)

Physical, cultural, and economic geography of Soviet Union. Prereq: 9 hrs.* (Spring quarter) *Korsok*

305. Geography of South America (3)

Similar treatment as in 301. Prereq: 9 hrs.* (Fall quarter)

306. Geography of Middle America (3)

Similar treatment as in 301. Prereq: 9 hrs.* (Winter quarter)

308. Geography of Western Europe (3)

Similar treatment as in 301. Prereq: 9 hrs.* (Fall quarter) *Korsok*

309. Geography of Eastern Europe (3)

Similar treatment as in 301. Prereq: 9 hrs.* (Winter quarter) *Korsok*

312. Geography of South and East Asia and Islands (3)

Similar treatment as in 301. Prereq: 9 hrs.* (Winter quarter)

313. Geography of Southwest Asia and North Africa (3)

Similar treatment as in 301. Prereq: 9 hrs.* (Spring quarter) *Berger*

322. Geography of West Africa (3)

Similar treatment as in 301. Prereq: 9 hrs.* (Fall and Spring quarters) *Berger*

323. Geography of East and South Africa (3)

Similar treatment as in 301. Prereq: 9 hrs.* (Winter quarter) *Berger*

360. Principles of Political Geography (3)

Geographic basis of national power. Physical and cultural influence upon historical development is emphasized. Prereq: 9 hrs.* (Fall quarter) *Berger*

370. Urban Geography (3)

Study of geographic factors in urban areas stressing locational and economic factors. Prereq: 9 hrs.* (Spring quarter) *Korsok*

372. Settlement Geography (3)

Arrangement, pattern, and diagnostic forms of rural settlement as viewed in terms of cultural and historical antecedents and environmental effect. Prereq: 9 hrs.* (Spring quarter) *Wilhelm*

380. Development of Geographic Thought (3)

History of development of geography as a science and philosophy. Prereq: Major in geography or perm. (Spring quarter)

381. Research Methods in Geography (3)

Study of research materials, methods of investigation, and presentation of geographic data. Prereq: Major in geography or perm. (Winter quarter)

382. Geographic Studies (1-3 in a quarter in any of the following, max. in any one area 9)

Supervised studies in fundamentals of geographic research. Prereq: 15 hrs., perm.

a. CARTOGRAPHY *Korsok*

b. CONSERVATION OF NATURAL RESOURCES

c. ECONOMIC GEOGRAPHY *Korsok*

d. METEOROLOGY AND CLIMATOLOGY *Wilhelm*

e. POLITICAL GEOGRAPHY

f. REGIONAL GEOGRAPHY

g. SETTLEMENT GEOGRAPHY *Wilhelm*

h. URBAN GEOGRAPHY *Korsok*

391. Seminar in Geography (1)

Selected topics for seminar presentation. Attendance required of all senior major students. (Spring quarter)

*Upperclassmen and graduate students in related fields such as history, economics, government, and sociology, may take the course by perm.

GEOLOGY

Requirements for the B.S. Degree and minimum preparation for a professional career in geology include at least 59 hours in departmental courses numbered above 100, including 123, 131, 132, 133, 151, 152, 213, 214, 215, 232, and 362, and Geog. 215, and Geog. 4 or 104.

In addition, the following extra-departmental work is required: Chem. 10, 11, 12; Math. 63A, 63B, 63C; Physics 5, 6, 7. Recommended: Field Camp.

Minimum requirements for the A.B. degree include the above departmental courses except 282, and the following extra-departmental courses: Chem. 10, 11, 12; Math. 6. Recommended: Physics 5, 6. 7.

3. Elements of Geology, Physical I (3)

Introduction to earth features, processes, and principles. 2 lec., 2 lab., field trips. Not open to students who have had 102 or 103.

4. Elements of Geology, Physical II (3)

Continuation of 3 and introduction to earth history. 2 lec., 2 lab., field trips. Not open to students who have had 102 or 103. Prereq: 3.

5. Elements of Geology, Historical (3)

Introduction to earth history, emphasizing geologic history of North America. 2 lec., 2 lab., field trips. Prereq: 4.

102. Common Minerals, Rocks, and Fossils (3)

Introduction to study and identification of common minerals and rocks and common groups of fossils. 2 lec., 2 lab., field trips. Not open to students who have had 3, 4, or 103.

103. Geology for Engineers (5)

Geologic principles applied to engineering projects and materials. 4 lec., 2 lab. Not open to students who have had 3 and 4. (Fall quarter) *Fisher*

123. Principles of Geomorphology (4)

Description and origin of landforms of the world. 3 lec., 2 lab., field trips. Prereq: 5. (Fall quarter) *Baker*

125. Glacial Geology (4)

Introduction to study of glaciers and glaciation. 3 lec., 2 lab., field trips. Prereq: 5. (Spring quarter) *Baker*

130. Rocks and Minerals (5)

Study of common minerals, rocks, and related ores, including their classification, description, origin, and use. 3 lec., 4 lab. Not open to geology majors. Prereq: 4 or 103. (Winter quarter)

131. Mineralogy I (5)

Elements of crystallography and introduction to descriptive mineralogy. 3 lec., 4 lab. Prereq: 4, Chem. 12. (Fall quarter) *Phelps*

132. Mineralogy II (4)

Determinative mineralogy using physical and chemical methods. 2 lec., 4 lab. Prereq: 131. (Winter quarter) *Phelps*

133. Petrology (4)

Study of rocks emphasizing origin, composition, field classification, and identification. 3 lec., 2 lab. Prereq: 132. (Spring quarter) *Phelps*

151. Invertebrate Paleontology (3)

Introduction to invertebrate fossils emphasizing their morphology, classification, and distribution. 2 lec., 2 lab., field trips. Prereq: 5. (Winter quarter) *Sturgeon*

152. Invertebrate Paleontology (3)

Continuation of 151. 2 lec., 2 lab., field trips. (Spring quarter) *Sturgeon*

213. Principles of Sedimentology (4)

Principles of transport, deposition and diagenesis of sediments. 3 lec., 2 lab., field trips. Prereq: 133. (Winter quarter) *Fisher*

214. Principles of Stratigraphy (4)

Introduction to basic concepts of stratigraphy, historical development of facies concept, principles of stratigraphic nomenclature and correlation. 3 lec., 2 lab., field work. Prereq: 213. (Spring quarter) *Howard*

215. Historical Geology (5)

Earth history emphasizing geologic development and stratigraphy of North America. 4 lec., 2 lab., field trips. Prereq: 5, 152. (Fall quarter) *Sturgeon*

219. Photogeologic Mapping (4)

Interpretation of air photographs as practiced by geologists and civil engineers. 2 lec., 4 lab. Prereq: 123, or perm., 125 recommended. (Spring quarter)

282. Geologic Field Methods (4)

Introduction to use of hand level, Brunton pocket transit, and plane table and telescopic alidade. 2 lec., 4 lab. Prereq: C.E. 10 recommended, perm. (Spring quarter) *Phelps*

315. Geology of Ohio (3)

Introduction to physiography, stratigraphy, and economic geology of Ohio. 2 lec., 2 lab. Prereq: 5, field trips. (Upon demand) *Sturgeon*

333. Optical Mineralogy (4)

Optical characteristics of minerals in polarized light; identification of minerals with petrographic microscope. 2 lec., 4 lab. Prereq: 132, Physics 7. (Fall quarter) *Heien*

343. Igneous and Metamorphic Petrography (4)

Petrogenesis of igneous and metamorphic rocks and their description and classification in thin section. 2 lec., 4 lab. Prereq: 333. (Winter quarter, 1967-68) *Heien*

344. Sedimentary Petrography (3)

Identification and environmental analyses of sedimentary rocks in thin section and grain mounts. 2 lec., 2 lab. Prereq: 213, 333. (Spring quarter, 1968-69) *Fisher*

354. Principles of Micropaleontology (4)

Introduction to biology, morphology, taxonomic characteristics and uses of microscopic fossils. 2 lec., 4 lab. Prereq: 152. (Fall quarter, 1967-68) *Howard*

362. Structural Geology (5)

Study and interpretation of rock structures caused by earth movements. 3 lec., 4 lab., field trips. Prereq: 215, Math. 6. (Spring quarter) *Yeats*

371. Economic Geology—Metals (3)

Principles of metallic mineral deposition and survey of major ore deposits of the world. 2 lec., 2 lab. Prereq: 133. (Fall quarter, 1968-69) *Phelps*

372. Ore Deposits (3)

Study of texture, paragenesis, and origin of metallic ores in polished sections. 2 lec., 2 lab. Prereq: 371. (Winter quarter, 1968-69) *Phelps*

373. Economic Geology—Non-Metals (3)

Principles of non-metallic mineral deposition and survey of non-metallic and coal deposits of the world. 2 lec., 2 lab., field trips. Prereq: 133. (Spring quarter, 1967-68) *Fisher*

374. Petroleum Geology (4)

Origin, migration and accumulation of petroleum and survey of major oil basins of the world. 3 lec., 2 lab. Prereq: 362. (Fall quarter, 1967-68) *Fisher*

375. Subsurface Methods (4)

Resume of drilling practices, electric and radioactivity logging, and geophysical methods of subsurface exploration for petroleum, metals, and water supplies. 3 lec., 2 lab. Prereq: 374, perm. (Winter quarter, 1967-68) *Fisher*

376. Hydrogeology (5)

Study of principles governing occurrence, movement, and recovery of water, with emphasis on ground water. 4 lec., 2 lab. Prereq: 214. (Spring quarter, 1968-69) *Baker*

381. Seminar in Geology (1, max. 3)

Reports based on individual research or on readings in current geologic literature. Attendance required of all senior major students. (Fall and Spring quarters)

383. Geologic Studies (1-4, max. in any one area, 8)

Supervised studies in fundamentals of geologic research. Prereq: 18 hrs., perm.

a. GLACIAL GEOLOGY AND PHYSIOGRAPHY *Baker*

b. GROUND WATER *Baker*

c. MINERALOGY, PETROLOGY, OR ECONOMIC GEOLOGY *Fisher, Heien, Phelps*

d. PALEONTOLOGY *Howard, Sturgeon*

e. SEDIMENTATION AND STRATIGRAPHY *Fisher, Howard, Phelps, Sturgeon*

f. STRUCTURAL GEOLOGY *Yeats*

g. TECTONICS *Yeats*

385. Geologic Field Reconnaissance (2 or 3)

Vacation period geologic field trips to selected areas in North America with pertinent conferences, readings, and reports. Arr. Prereq: 20 hrs., perm. (Winter quarter)

391. Statistical Applications in Geology (3)

Introduction to basic statistical techniques with particular applications of statistics to geology. 2 lec., 2 lab. Prereq: 18 hrs., perm. (Winter quarter, 1967-68) *Howard*

410. Principles of Paleoecology (4)

Introduction to basic principles involved in reconstruction of paleoenvironments. 3 lec., 2 lab., field work. Prereq: 152, 213 or biol. or zool., 9 hrs., perm. (Winter quarter, 1967-68) *Howard*

413. Advanced Sedimentology (2)

Geochemistry of sediments, resume of optimum sampling, current presentations of sedimentary data. 1 lec., 2 lab. Prereq: 213, perm. (Spring quarter, 1968-69) *Fisher*

432. Structural Mineralogy (4)

Advanced crystallography applied to internal structures, nature of mineral structures and principles of crystal chemistry. 3 lec., 2 lab. Prereq: 132. (Spring quarter, 1967-68) *Heien*

436. Principles of Geochemistry (3)

Principles of geochemistry applied to various geologic environments, including principles of thermodynamics applied to geologic systems, phase equilibria, solution geochemistry, isotope geochemistry, and radioactive dating. 3 lec. Prereq: 133, Math. 63B recommended. (Spring quarter, 1968-69) *Heien*

437. X-Ray Methods (3)

Principles of x-ray diffraction and x-ray crystallography; identification of minerals and analysis of mineral structures by powder method. 2 lec., 2 lab. Prereq: 132, physics 7. (Winter quarter, 1968-69) *Heien*

GERMAN

See Modern Languages.

GOVERNMENT

Professors: Collins, Elsbree (chairman), Gusteson.

Associate Professor: Bald.

Assistant Professors: Baum (on leave), Bro-mall, Connolly, Prisley, Tucker.

Instructors: Barnes, Kim, Williams.

The major requirement for the A.B. degree is a minimum of 45 hours, including Govt. 1 and 2. Majors must also satisfy the following requirements: (a) a minimum of one course in political theory, and (b) at least 3 courses above 100 in each of the two areas of (1) American government and politics and (2) comparative/international politics.

1-2. American National Government (4-4)

Govt. 1 deals with constitutional basis and development, political processes, and organization of American national government. Govt. 2 deals with functions and operations of the national government. 1 is a prereq. for 2. Not open to juniors and seniors.

131, 132, 133. Comparative Government (3, 3, 3)

Government and politics of major foreign powers. 131 includes Great Britain and a less developed country. 132 covers France and Germany. 133 deals with the Soviet Union and one-party states. Sophomores.

301-302. Government of the United States (3-3)

301 is an advanced study of American national government, will examine constitutional development, governmental institutions, and political processes. 302 deals with functional and policy-making roles of national government, with emphasis on issues such as foreign policy, civil liberties, and economic policy. 301 is a prereq. for 302. Open only to juniors and seniors who have not had 1-2. (Winter and Spring quarters)

303. Urban Politics (5)

Study of impact of urbanization on structure and functions of municipalities. Emphasis on

role of government in resolving community conflict. Prereq: 1-2 or 301-302. (Winter quarter) *Barnes*

304. Politics in the American States (5)

Comparative analysis of state political systems. Emphasis on structure and process of policy making of the states within a federal context. Prereq: 1-2 or 301-302. (Fall quarter) *Tucker*

331, 332, 333. Comparative Government (3, 3, 3)

Government and politics of major foreign powers. 331 includes Great Britain and a less developed country. 332 includes France and Germany. 333 deals with the Soviet Union and one-party states. Open to juniors and seniors only. (Fall, Winter and Spring quarters)

334A, B. Government and Politics of Latin America (3, 3)

Contemporary governments of Latin America, with emphasis on political processes, institutions and groups, and social and political environment in which they function. 334A is not a prereq. for 334B. (Winter and Spring quarter)

350A-B. International Relations (3-3)

Survey of modern nation state system and of recent trends in inter-state relations; study of basic forces and conditions affecting international politics and formulation of national foreign policies. A must be taken prior to B and both A and B must be taken to receive credit for the course. Prereq: 9 hrs. (Fall and Winter quarters) *Bald*

351. Current International Problems (3)

Analysis of selected contemporary issues illustrating basic problems in international relations. Prereq: 350A-B. (Spring quarter) *Bald*

371. History of Political Theory (5)

Examination of major empirical and normative questions raised by classical political philosophers from Plato to Rousseau. Prereq: 11 hrs. (Fall quarter) *Connolly*

372. History of Political Theory (5)

Examination of recent and contemporary political thinkers. Emphasis on theories of power, relevance of democratic ideal to modern industrial society, and problem of ideology in political inquiry. Prereq: 11 hrs. (Winter quarter) *Connolly*

401, 402. American Constitutional Law (3, 3)

Principles underlying American constitutional government. Consideration of leading cases with reference to interpretation of the Con-

stitution of the United States. Prereq: 14 hrs. of government or history. (Fall and Winter quarters) *Gusteson*

405. American Political Parties (3)

Origin, growth, organization and methods of parties; suffrage, nominations, and elections; role of parties in a democracy. Prereq: 11 hrs. (Fall quarter) *Gusteson*

408. Legislatures and the Legislative Processes (5)

Major problems of representative governments with respect to legislative assemblies. Analysis of structure, organization, and procedures. Interrelationship of legislatures with other forces in society. Prereq: 11 hrs. (Winter quarter)

409. Law Enforcement (5)

Survey and analysis of role, function, and problems of American judicial, prosecutory, policing, and correctional systems in the political process. Examination of relationship of law and social organization. Prereq: 11 hrs. (Fall quarter) *Bromall*

411. Public Administration (4)

Development of administrative organizations, current ideas in organizational theory, nature of federal bureaucracy, fiscal management, and control of administrative action. Prereq: 11 hrs. (Fall quarter) *Collins*

412. Public Personnel Administration (3)

Analysis of philosophy, problems, and procedures of public personnel management: recruitment, training, and promotion policies, position classification, and employer-employee relations. Prereq: 11 hrs. (Winter quarter) *Collins*

413A,B. Administrative Law (3,3)

Organization, functions, and procedures of selected national regulatory agencies; principles affecting administrative discretion, administrative power over private rights, enforcement and judicial control of administrative decisions. Prereq: 11 hrs. A is a prereq. for B. (Winter and Spring quarters) *Collins*

420. American Foreign Policy (5)

Consideration of problems involved in formulation and execution of foreign policy. Particular emphasis on contemporary problems of American policymakers. Prereq: 11 hrs. of government or history. (Fall and Spring quarters) *Collins*

432A, B. Government and Politics of the Soviet Union (3, 3)

Institutions, nature and policies of Soviet system of government. A deals with historical

background, ideology and organization; B deals with dynamics of ideology and power and nature of totalitarian systems. Prereq: 133 (333) or a course in the history of the Soviet Union. (Fall and Winter quarters) *Williams*

433. Soviet Foreign Policy (3)

Analysis of foreign policies of the U.S.S.R. Historical, ideological, strategic and other influences covered. Relations with bloc countries included. Prereq: 133 (333) or a course in the history of the Soviet Union. (Spring quarter) *Williams*

438. Government and Politics of Germany (3)

Analysis of political institutions, processes and forces in contemporary Germany. Prereq: 11 hrs. including 132 (332). (Fall quarter) *Bald*

441. Government and Politics of Africa (5)

Development and structure of modern African states with emphasis on political processes in tropical Africa. Prereq: 11 hrs. government or history. (Fall quarter)

445. Government and Politics of Japan (3)

Political institutions and processes of Japan with emphasis on developments since 1945. Prereq: 11 hrs. of government or Asian history. (Winter quarter) *Elsbree*

446. Government and Politics of China (3)

Political institutions and processes, and major political developments in China with emphasis on recent events. Prereq: 11 hrs. of government or Asian history. (Spring quarter) *Elsbree*

447A,B. Governments and Politics of Southeast Asia (3,3)

Political institutions, processes and groups in the states of the area. 447A emphasizes political problems common to the region; 447B examines individual countries in detail. 447A is a prereq. for 447B. Prereq: 11 hrs.

455. International Law (5)

Role of international law in interstate relations and in international organization. Prereq: 350A,B. (Fall quarter) *Kim*

456. International Organization (5)

Analysis of nature, development, structure, and functions of international organizations, with particular emphasis on the United Nations. Prereq: 350A,B. (Spring quarter) *Kim*

461. New States in World Politics (4)

Detailed examination of impact of new states on international relations. Particular attention given to problems and foreign policies of new states. Prereq: 350A,B. (Winter quarter)

471. Modern Political Analysis (5)

Examination of problems of knowledge in social sciences, with particular emphasis on political science. Analysis of major theories or approaches developed in political science recently. Prereq: 20 hrs., and perm. *Tucker*

474. Nineteenth Century Political Thought (3)

Movements in nineteenth century political thought in Europe; liberalism, socialism, irrationalism among the subjects covered. Prereq: 11 hrs. or 8 hrs. of government and one course in European history. (Fall quarter) *Elsbree*

475. Contemporary Political Theory (5)

Examination of selected issues in contemporary political theory; proposals for reform of political system, role of intellectuals in politics, analysis of key political concepts. Prereq: 272, perm. (Spring quarter) *Connolly*

476A,B. American Political Thought (3,3)

A considers origin and development of political ideas from the colonial period through the slave controversy. B begins with Social Darwinism and concludes with contemporary political ideas in America. Prereq: 11 hrs. of government or history. A is a prereq. for B. (Winter and Spring quarters) *Prisley*

490. Studies in Government (3-5, max. 18)

Intensive study of special topics in field of government, including American government and politics, comparative government, international relations, political theory and public administration. Prereq: 18 hrs., perm.

491. Seminar in Government (3-5, max. 10)

Seminar in selected fields of government. Prereq: 18 hrs., perm.

498. Problems in Government (3-5, max. 10)

Research or directed reading based on student's special interest. Prereq: 18 hrs., perm.

GREEK

See Classical Languages.

HISTORY

Distinguished Professor: Cady.

Professors: Daniel, Lobdell (chairman), Gilmore, Gustavson, Parmer, Stevens.

Associate Professors: Kaldis, Steiner, Turner.

Assistant Professors: Booth, Chastain, Doxsee, Hamby, Harvey, Herring, Jordan, Maltby, McGeoch, Rauschenberg, Richter, Smith, Whealey, Wheeler.

Instructor: Doolen.

The major requirement for the A.B. degree consists of a minimum of 47 hours, including History 1, 2, 3, 111, 112, 113 (unless excused as the result of taking a placement test), and a minimum of 16 hours at the 400 level with at least 4 hours of a 400 level studies course. Beyond History 113 the following minimum hours are required: 6 hours in United States history, 6 hours in European history, and 6 hours in a non-European, non-United States field. History 1, 2 and 3 should be taken during the freshman year. Courses in economics, geography, government, and sociology are suggested as electives.

1,2,3. Western Civilization in Modern Times (3,3,3)

1 covers the Renaissance to 1648: Renaissance, Reformation, origins of national state system, diplomacy and imperialism as applied to Portugal, Spain, and Hapsburg Empires, and commercial and scientific revolutions. 2 covers 1648 to 1848: absolutism, constitutionalism, operation of coalition diplomacy and imperialism as applied to France and Britain; Westernization of Eastern Europe, enlightenment, French Revolution, agricultural, commercial and industrial revolutions and growth of ideologies—liberalism, socialism, and nationalism. 3 covers 1848 to present: continued industrial revolution and spread of liberalism, socialism and nationalism, rise and fall of German bid for power in two world wars; new ideologies of materialism, positivism, social Darwinism, irrationalism, totalitarianism; Russian and Chinese revolutions and international communism; rise and fall of Western empires in Africa and Asia. Not open to juniors and seniors.

111,112,113. History of the United States (3,3,3)

Political, diplomatic, social, and economic development of American history. 111 covers 1607 to 1828: Colonial America, founding of the new nation, and early national period. 112 covers 1828 to 1900: Jacksonian Democracy, territorial expansion, sectionalism and controversy, Civil War, Reconstruction, and impact of expanded Industrial Revolution. 113 covers 1900 to present: progressive movement, World War I, prosperity and depression, World War II, and problems of the cold war era. Open to sophomores only. Prereq: 111 for 112; 112 for 113.

297. European History, Honors (4)

Europe from 1848 to the present. Open to Honors College students only.

298. United States History, Honors (4)

United States from 1607 to present. Takes the place of 111, 112 and 113 for Honors College Students. Open to Honors College students only.

301. Western Civilization in Modern Times: From Renaissance to 1648 (3)

Description same as for 1. Not open to freshmen or sophomores or to those who have had 1.

302. Western Civilization in Modern Times: 1648 to 1848 (3)

Description same as for 2. Not open to freshmen or sophomores or to those who have had 2.

303. Western Civilization Since 1848 (3)

Description same as for 3. Not open to freshmen or sophomores or to those who have had 3.

311. History of the United States: To 1828 (3)

Description same as for 111. Not open to freshmen or sophomores or to those who have had 111.

312. History of the United States: 1828 to 1900 (3)

Description same as for 112. Not open to freshmen or sophomores or to those who have had 112. Prereq: 111 or 211.

313. History of the United States: Since 1900 (3)

Description same as for 113. Not open to freshmen or sophomores or to those who have had 113. Prereq: 112 or 212.

318A. Ohio History to 1851 (3)

Moundbuilders and Indians, Anglo-French rivalry, Revolution, territorial development, patterns of settlement, Constitution of 1802, evolution of political parties, transportation and economy, banking and currency, Constitution of 1851. *Smith*

318B. Ohio History Since 1851 (3)

Slavery and restructuring of political parties, Civil War, rise of industry, politics in progressive era, Great Depression and its aftermath, post-World War II Ohio. *Smith*

322A. Latin American Survey, 1492-1700 (3)

Pre-conquest Indian states; conquest, colonization, and institutional penetration of the Americas by Spain and Portugal. *Gilmore*

322B. Latin American Survey, 1700-1880 (3)

Eighteenth century reorganization and reform, wars for independence, and demolition of colonial order in new nations of Spanish and Portuguese America. *Gilmore*

322C. Latin American Survey, 1880 to Date (3)

Development of Latin American republics as modern nation-states. *Gilmore*

328. Ancient History (4)

Origins of Western civilization from prehistoric man to disintegration of Roman Empire, general study of early civilizations of fertile crescent and Greco-Roman World. *Richter*

334A. Survey of Islamic Civilization to 1800 (3)

Introduction to Islamic history and civilization from rise of Islam to end of eighteenth century. Includes discussion of role of prophet Muhammad, doctrines and institutional system of Islam, medieval Islamic Caliphates and their cultural achievements, and contributions of Persians and Turks to Islamic Civilization. Prereq: 9 hrs. *Doxsee*

334B. Survey of Middle East History Since 1800 (3)

Introduction to history of Middle East since the era of the French Revolution. Analysis of disintegration of the Ottoman Empire, emergence of the contemporary Middle East political system, impact of nationalism, secularism, and industrialism on the region, and position of the Middle East in contemporary world affairs. Prereq: 9 hrs. *Doxsee*

340A. Africa in Ancient Times (3)

History of Africa before the coming of Europeans. Dawn of man; Egypt and other neolithic cultures; rise of the Sudanic empires; introduction of crops; spread of iron culture; development of trade routes; Bantu migrations. *Booth*

340B. Africa and the Europeans (3)

Early European explorations; advancement into South, West, East and North Africa; reaction of the Africans; era of slave trade; Victorian explorers; the "Scramble for Africa." *Booth*

340C. Africa in Modern Times (3)

Colonial era; First World War; Mandate System and its impact; advancement and involvement in the Second World War; rise of nationalism; Independence and after. *Booth*

348A. China to 1860 (3)

Successive periods of the history of China and principal aspects of its cultural development from the first millennium B.C. to the Treaty of Peking, 1860. Prereq: 9 hrs. and 1 and 2 *Cady, Jordan*

348B. Japan and Korea to 1868 (3)

Origins and character of the state of Japan with minor emphasis on Korea; indigenous culture, borrowing from China, and successive phases of Japan's history to the fall of the Tokgawa Shogunate. Prereq: 9 hrs. and 1 and 2. *Cady, Jordan*

352A. The Early Middle Ages (3)

Birth of the Middle Ages, 300-1100: collapse of ancient civilization, triumph of Christianity, coming of the dark ages, and revival of Europe in the eleventh century. *Turner*

352B. The Later Middle Ages (3)

Maturity and decadence of medieval world, 1100-1450: revival of trade, royal governments, papal power, schools, and learning in the twelfth and thirteenth centuries; and collapse of this civilization in the fourteenth and fifteenth centuries. Prereq: 352A. *Turner*

390A. English History to 1688 (4)

For English, and government majors as well as pre-law students and general students of history. Stresses institutional aspects of medieval England and social, political, and constitutional developments in the Tudor and Stuart periods. *Rauschenberg*

390B. English History Since 1688 (4)

For English and government majors as well as pre-law students and general students of history. Emphasizes cultural and economic developments, growth of the British Empire, constitutional and social reforms, and the impact of World Wars I and II. *Rauschenberg*

400A. Colonial America to 1689 (3)

English background, establishment of settlements, first economies, evolution of political and religious structures, relations with England, internal conflicts, the Glorious Revolution. Prereq: 111 or 311. *Steiner*

400B. Colonial America 1689-1763 (3)

Governmental changes, credit and currency, the Great Awakening, cultural developments, the Old Colonial System, Anglo-French rivalry, the nature of colonial society, problems of maturing political units. Prereq: 400A. *Steiner*

400C. Revolutionary Era, 1763-1783 (3)

Causes of the American Revolution and the struggle for independence. Prereq: 9 hrs., including 111 or 311. *Stevens*

401A. Studies in Colonial American History (4)

Literature and source materials of Colonial American History. Readings and reports. Prereq: 24 hrs. *Steiner*

401C. Studies of the Era of the American Revolution (4)

Literature and source materials of the American Revolution. Readings and reports. Prereq: 24 hrs. *Stevens*

404A. Founding the American Republic: Confederation to Constitution, 1783-1800 (3)

The Confederation, movement for a new government, framing of the Constitution and establishment of the government during Washington's and Adams's terms. Prereq: 9 hrs., including 111 or 311. *Wheeler*

404B. Founding the American Republic: Jeffersonian Democracy and the Rise of Nationalism, 1800 to 1819 (3)

Shaping of America's political, social, and economic institutions, constitutional development and foreign policy under the exponents of Jeffersonian democracy, and the rise of the nationalistic spirit during the War of 1812 and after. Prereq: 9 hrs., and 111 or 311. *Wheeler*

404C. The Old South (3)

Origins and growth of distinctive social, cultural, and ideological patterns in the South with emphasis on the nineteenth century prior to the Civil War. Prereq: 9 hrs., and 111 or 311. *Wheeler*

405. Studies in the Foundation of the American Republic, 1783-1819 (4)

Literature and source materials of the early national period of American history. Readings and reports. Prereq: 24 hrs. *Wheeler*

406A. Sectional Controversy: 1820 to 1836 (3)

Slavery and political controversy, rise of the common man, and problems and implications of Jacksonian democracy. Prereq: 9 hrs., including 111 or 311. *Stevens*

406B. Sectional Controversy: 1836 to 1850 (3)

Sectional tensions evolving from political controversy, economic conditions, and territorial expansion and attempts to compose differences during the period 1836 to 1850. Prereq: 9 hrs., including 111 and 112 or 311 and 312. *Stevens*

407. Studies of the Era of Sectional Controversy, 1819-1850 (4)

Literature and source materials of the Era of Sectional Controversy, 1819-1850. Readings and reports. Prereq: 24 hrs. *Stevens*

408A. Foundations of Modern America: The Civil War Era, 1850-1865 (3)

Intensive examination of the period from 1850 to conclusion of the Civil War in 1865, with special reference to those forces making for increased sectionalism in the 1850's; rise of new political movements and leaders; military engagements; and society and institutions in both the North and the Confederacy during wartime. Prereq: 9 hrs., including 111 or 311. *Doolen*

408B. Foundations of Modern America: Reconstruction and the New South After 1865 (3)

United States in the years following the Civil War; administrations of Andrew Johnson and Ulysses S. Grant, with special reference to Reconstruction policies for the South, and restoration of home rule in that region. Carries the account of southern regional development to the end of the nineteenth century. Prereq: 9 hrs., including 408A. *Doolen*

408C. Foundations of Modern America: The Gilded Age, 1877-1901 (3)

United States in the late nineteenth century, with emphasis on roles of agrarian, labor and reform movements in an increasingly industrial and urban society; and with special note taken of role of political parties in the Gilded Age. Prereq: 9 hrs., including 111 or 112; or 311 or 312. *Doolen*

409. Studies in the Era of the Foundations of Modern America, 1850-1900 (4)

Literature and source materials for the period 1850-1900 in United States history. Readings and reports. Prereq: 24 hrs. *Doolen*

410A. The United States in Recent Times, 1900-1920 (3)

Progressive Era, American imperialism, World War I, rejection of Wilsonian liberalism. Prereq: 9 hrs., including 113 or 313. *Hamby, Lobdell*

410B. The United States in Recent Times, 1920-1939 (3)

Temper and culture of the twenties, Republican ascendancy and Democratic revival, the Great Depression, F. D. Roosevelt and the New Deal. Prereq: 9 hrs., including 113 or 313. *Hamby, Lobdell*

410C. The United States in Recent Times, Since 1939 (3)

Abandonment of isolation, World War II, American politics in later Roosevelt years, Cold War, Truman and the Fair Deal, politics and problems of the fifties and sixties. Prereq: 9 hrs., including 113 or 313. *Hamby, Lobdell*

411. Studies in the History of the United States in Recent Times (4)

Literature and source materials of recent United States history. Readings and reports. Prereq: 24 hrs. *Hamby, Lobdell*

412. History of the Industrial Revolution in the United States, 1850-1917 (3)

Origins of factory system, impact of the Civil War, rise of heavy industry, problems of financing and control, influence of the progressive era. Prereq: 112 and 113, or 312 and 313. *Daniel*

414A. Social and Cultural History of the United States, 1607-1820 (3)

Role of minorities, class structure, and religion in forming American society; development of American painting, architecture, music, literature, education and science as expressions of Puritanism, Enlightenment and nationalism. Prereq: 111 or 311. *Daniel*

414B. Social and Cultural History of the United States, 1820-1890 (3)

Role of minorities, class structure, and religion in forming American society; development of American painting, architecture, music, literature, education and science as expressions of Romanticism, Social Darwinism, and Pragmatism. Prereq: 112 or 312. *Daniel*

414C. Social and Cultural History of the United States, 1890 to Date (3)

Role of minorities, class structure, and religion in forming American society; development of American painting, architecture, music, literature, education and science as expressions of Pragmatism and Existentialism. Prereq: 113 or 313. *Daniel*

415. Studies in the Social and Cultural History of the United States (4)

Literature and source materials of social and cultural history of the United States. Readings and reports. Prereq: 24 hrs. *Daniel*

416A. History of United States Foreign Relations to 1898 (3)

United States foreign relations from the war for independence to the Spanish-American War, stressing development of traditional policies—isolationism, neutrality, the Monroe Doctrine—and emergence of an American approach to foreign policy. Prereq: 9 hrs., including 112 or 312. *Herring*

416B. History of United States Foreign Relations, 1898-1939 (3)

American foreign relations from the war with Spain to the outbreak of World War II, emphasizing attempts to adjust traditional poli-

cies and attitudes to new conditions produced by changes in world power structure and rise of the United States as a great power. Prereq: 9 hrs., including 113 or 313. *Herring*

416C. History of United States Foreign Relations, Since 1939 (3)

World War II and the revolution in American foreign relations, cold war and containment, search for peace and security in a revolutionary era. Prereq: 9 hrs., including 113 or 313. *Herring*

417. Studies in the History of American Foreign Relations (4)

Literature and source material of American Foreign relations. Readings and reports. Prereq: 24 hrs. *Herring*

418A. The Westward Movement: From the Atlantic Seaboard to the Mississippi (3)

Expansion from first settlements on the Atlantic seaboard to the Mississippi. Explorations, Indian trade, land policies, pioneer life, territorial development and state making. Prereq: 111 or 311. *Stevens*

418B. The Westward Movement: Trans-Mississippi West (3)

Territorial acquisitions, trails and exploration, Indian affairs, railroads, types of later frontiers and the influence of the West upon American ideals and institutions. Prereq: 112 and 113 or 312 and 313. *Stevens*

420. History of the Middle West (3)

Development of political, economic and social institutions and attitudes characteristic of Ohio and the Middle West since 1787. Includes twentieth century community relationships, problems and forms of behavior. *Smith*

422A. Spanish America, 1750-1825 (3)

Intensive consideration of colonial response to Bourbon Reforms, to crisis of authority in Spain (1795-1810), and institutional adjustments to independence. Prereq: 9 hrs. *Gilmore*

422B. Spanish America in the Nineteenth Century (3)

Coordinate role of Liberalism, Caudillism, Praetorianism, Caciquism, and Positivism in shaping development of Spanish American republics. Attention concentrated on Argentina, Colombia, and Mexico. Prereq: 9 hrs. *Gilmore*

423. Studies in Latin American History, 1750-1870 (4)

Literature and source material of Latin American history, 1750-1870. Readings and reports. Prereq: 24 hrs. *Gilmore*

426A. Recent Latin America: Argentina, Brazil, and Mexico in the Twentieth Century (3)

Reshaping and modernization of Mexico by revolution, and struggle to convert Argentine and Brazilian regionalisms, divided societies, and resources into modern, urban, integrated nations. Prereq: 9 hrs. *Gilmore*

426B. Recent Latin America: The Andean Nations in the Twentieth Century (3)

Varied experience of Andean Republics under onset of modernization stressed. Prereq: 9 hrs. *Gilmore*

427. Studies in Recent Latin American History (4)

Literature and source materials of recent Latin American history. Readings and reports. Prereq: 24 hrs. *Gilmore*

428A. Ancient Near East (3)

Ancient civilizations of Fertile Crescent and Nile Valley with particular attention to Sumerians, Egyptians, Babylonians, Hittites, Hebrews, and Persians. Prereq: 9 hrs. *Richter*

428B. Ancient Greece (3)

Greek civilization from the Bronze Age to the end of the Hellenistic Era, with particular attention to institutions, life, and cultures of the Greek city-states. Prereq: 9 hrs. *Richter*

428C. Ancient Rome (3)

Roman civilization from the earliest beginnings through the republic and down to the last centuries of the empire. Prereq: 9 hrs. *Richter*

434. The Middle East Since 1900 (3)

Principal problems and developments in Turkey, Iran, Israel, and the Arab States since the First World War. Attention focused on the institutional structures and ideological orientation as well as principal political, social, and economic problems of the region. Prereq: 12 hrs. *Doxsee*

436. North Africa (3)

Introduction to modern history of North Africa focusing on Morocco, Algeria, and Tunisia from 1830 to the present. Extension of French control over the region, French administrative and economic policies, development of nationalism among indigenous Muslims, struggle for independence, achievements and failures since independence and comparisons with Egypt and the Nile Valley. Prereq: 12 hrs. *Doxsee*

441. Studies in African History (4)

Literature and source materials of African history. Readings and reports. Prereq: 24 hrs.
Booth, Doxsee

442A. History of South Africa to 1899 (3)

Ancient man; Bantu migrations; coming of Europeans; conflict between Bantu, Boer and Briton; rise of Zulus and Wars of Calamity; rise of colonial tensions and origins of Boer War. *Booth*

442B. South Africa in Recent Times (3)

Boer War; Union of South Africa; rise of parties and Age of the Generals; first World War; industrial and social conflict; Second World War; Election of 1948 and emergence of Afrikaner nationalism. *Booth*

444A. Southeast Asia, to 1820 (3)

Southeast Asian peoples, economic life institutions, and cultures, including borrowings from India and China; origins, classical period, European commercial impact down to post-Napoleonic period. Prereq: 1 and 2 or 301 and 302. *Cady, Parmer*

444B. Southeast Asia: Colonialism to Independence (3)

Various patterns of investment colonialism in 19th century, its effects on Southeast Asian peoples, emergence of nationalist protests, independent movements, problems of modernization. Prereq: 444A. *Cady, Parmer*

444C. History of Malaysia (3)

Political and cultural history of Malaysian or Indonesian peoples from the 8th century A.D. through the mid-twentieth century. Emphasizes indigenous values and institutions and how these have been modified or displaced by experience with imperialism and modernization. Prereq: 1, 2, and 3 or 301, 302, and 303. *Parmer*

445. Studies in the History of Southeast Asia (4)

Literature of Southeast Asian history and culture generally, with particular emphasis on selected developments in the 19th and 20th centuries. Readings and reports. Prereq: 24 hrs., including 444A and 444B. *Cady, Parmer*

449. Studies in the History of East Asia in Modern Times (4)

Historical literature relating to the process of modernization of China and Japan from the 1860's to the 1960's. Readings and reports. Prereq: 24 hrs., including 348B. *Jordan*

451. The Far East in Modern Times (4)

Manchu China and Tokugawa Japan from the early nineteenth century; opening of China; Meiji Restoration in Japan; failure of China to adjust to external pressures; Manchu collapse; defeat of Japan's effort at hegemony over Eastern Asia; Communist triumph in China. Prereq: 9 hrs., including 3 or 303. *Cady, Jordan*

456A. The Italian Renaissance (3)

The Renaissance in Italy from the rise of Italian city states to invasions of the early sixteenth century. Prereq: 1 or 301. *Maltby*

456B. The Northern Renaissance (3)

Age of the Renaissance in Northern Europe, including France, England, Spain, Germany, and the Netherlands. Prereq: 1 or 301. *Maltby*

456C. The Reformation (3)

Protestant and Catholic Reformations in Europe from 1517 to Peace of Westphalia in 1648. Prereq: 1 or 301. *Maltby*

458A. Early Modern Europe, 1453-1559 (3)

Europe from 1453 through 1559. Main political, economic, and cultural developments in Europe: Rise of dynastic states, wars of religion, ideological struggles. Prereq: 1 or 301.

458B. Early Modern Europe, 1559-1648 (3)

Europe from 1559 through 1648. Main political, economic, and cultural developments in Europe: overseas expansion, commercial revolution, rise of absolutism, scientific revolution, and the Thirty Years' War. Prereq: 1 or 301.

458C. Early Modern Europe, 1648-1750 (3)

Europe from 1648 to 1789. Main political, economic, and cultural developments of Europe: industrialism and capitalism, absolutism, balance of power, intellectual revolution, and the Enlightenment. Prereq: 1 and 2 or 301 and 302.

461. Pro-Seminar in French Revolution (4)

Intensive study of such historical factors as causality, influence of ideology, institutional organization, and role of the individual in a great upheaval. Prereq: 24 hrs. *Gustavson*

462A. Europe 1814-1871 (3)

Europe from Congress of Vienna through the Franco-Prussian War including growth of liberalism and nationalism, revolutions of 1830 and 1848, Industrial Revolution, unification of Italy and Germany, and social and intellectual movements. Prereq: 3 or 303. *McGeoch*

462B. Europe 1871-1914 (3)

Development of Austria-Hungary, France, Italy, Germany, Great Britain, and Russia including imperialism, background of the First World War, and social and intellectual movements. Prereq: 3 or 303. *McGeoch*

463. Studies in Nineteenth Century Europe (4)

Literature and source material of nineteenth century Europe. Readings and reports. Prereq: 24 hrs. *McGeoch*

464A. Europe Between World Wars (3)

Fascism, Communism, and the Twenty-Year Armistice between 1919 and 1939. Prereq: 3 or 303. *Whealey*

464B. Contemporary Europe (3)

Problems of peace and war in Europe since 1939. Prereq: 3 or 303. *Gustavson*

466A. Modern France in the Nineteenth Century (3)

Nineteenth century socio-political, institutional and cultural evolution; revolutionary and authoritarian traditions under monarchy and republic; role of France as a great power. Prereq: 2 or 3.

466B. Modern France in the Twentieth Century (3)

Twentieth Century France including socio-political, institutional and cultural evolution and impact of World Wars on the nation and on France as a world power. Prereq: 3.

468A. Modern Germany in the Nineteenth Century (3)

Germany and Central Europe from Age of Napoleon to fall of Bismarck. Prereq: 2 or 3.

468B. Modern Germany in the Twentieth Century (3)

Germany and Central Europe since the advent of Wilhelm II. Prereq: 3.

470. History of Eastern Europe (3)

Historical, cultural, and ethnic background of Eastern Europe: Poland, Czechoslovakia, Hungary, Rumania, Yugoslavia, and Bulgaria; social, economic, and political developments in the twentieth century; communization of Eastern European states. *Kaldus*

472A. The Balkans in the Medieval Period, 330-1566 (3)

Origins of the Balkan peoples and their history from their appearance in the Byzantine Empire to the Ottoman conquest of the Balkan peninsula; ethnographic structure of the

Balkan peoples; organization of the medieval Balkan Empires; Ottoman Empire and Christian Europe. *Kaldus*

472B. The Balkans in the Early Modern Period, 1566-1803 (3)

Balkan peoples under rule of the Ottoman Empire: Ottoman institutions and society; political, social, economic, religious, and cultural developments in the sixteenth, seventeenth, and eighteenth centuries. *Kaldus*

472C. The Balkans in the Modern Period, 1803 to the Present (3)

Evolution of modern Balkan nationalism and rise of the Balkan states; Ottoman dissolution and Balkan revolutionary nationalism; foreign intervention in the Balkans; domestic Balkan policy to the present and establishment of the Communist regimes. *Kaldus*

474A. History of European Diplomacy, 1814-1914 (3)

Diplomatic history from Congress of Vienna to the First World War including age of Metternich, Italian and German unification, new imperialism, and pre-war alliances and alignments. Prereq: 3 or 303. *McGeoch*

474B. History of International Diplomacy, 1914 to Present (3)

International problems of peace and war since World War I, international organization and alliances, adjustment to the collapse of European imperialism. Prereq: 3 or 303. *Whealey*

476A. Economic History of Europe to 1760 (3)

European economic development from the Middle Ages to the time of Adam Smith, including: Medieval Background, expansion of Europe, Mercantilism, and early growth of Capitalism. Prereq: 1 or 301.

476B. Economic History of Europe, 1760-1914 (3)

Industrial, commercial, agricultural, and financial development in Europe from mechanization of industry to the First World War. Prereq: 1 and 2 or 301 and 302.

476C. Economic History of Europe Since 1914 (3)

European Economic development in war and peace from 1914 to the present. Prereq: 3 or 303.

482A. History of Russia (3)

Russia from earliest times to 1881. Kievan Russia, Muscovy, emergence of Tsarist Russia, territorial expansion and role as a Great Power in Europe and Asia. Prereq: 9 hrs. *Gustavson*

482B. The Communist Revolution (3)

From Tsarist Russia to Soviet Union, 1881-1924; background for the Revolution, Bolshevik seizure of power, and consolidation of dictatorship. Prereq: 9 hrs. including 3 or 303. *Gustavson*

482C. Soviet Union (3)

Soviet Union since the death of Lenin (1924), with emphasis on internal affairs of Communist regime. Prereq: 9 hrs., including 3 or 303. *Gustavson*

490A. Tudor England (3)

England in the sixteenth century: Tudor absolutism, English Reformation, and major cultural and economic developments of Shakespeare's England. Prereq: 9 hrs., including 1 or 301 and 390A. *Harvey*

490B. Stuart England (3)

England in the seventeenth century: constitutional crisis of Stuart period, Republican experiment under Cromwell, beginning of the Empire, and major cultural and economic developments. Prereq: 9 hrs., including 1 or 301 or 390A. *Harvey*

492A. The United Kingdom in the Eighteenth Century (3)

Intensive study of political, social, intellectual, cultural, and economic developments of England in years prior to and during American and French Revolutions. Prereq: 9 hrs., including 2 or 302 or 390B. *Rauschenberg*

492B. The United Kingdom in the Nineteenth Century (3)

Intensive study of Britain's history in the 19th century including examination of major political, cultural, and economic trends. Prereq: 3 or 303 or 390B. *Rauschenberg*

492C. The United Kingdom in the Twentieth Century (3)

Intensive study of British history in the 20th century concentrating on political, cultural, and economic developments. Prereq: 3 or 303 or 390B. *Rauschenberg*

493. Studies in British History Since 1714 (4)

Literature and source material of British history since 1714. Readings and reports. Prereq: 24 hrs. *Rauschenberg*

494A. English Constitutional History to 1688 (4)

English government from Anglo-Saxon times to the Glorious Revolution of 1688. Growth of machinery of monarchy, central administration, courts, and common law; rise of Parliament, its rivalry with royal power, and its triumph. Prereq: 352A or 390A. *Turner*

494B. English Constitutional History Since 1688 (4)

Growth of English Constitution after the Glorious Revolution: union with Scotland and Ireland, emergence of the British Empire, creation of the cabinet and evolution of political democracy. Prereq: 2 and 3 or 302 and 303, or 390B. *Harvey*

496A. The British Empire-Commonwealth: Georgian Era (3)

British Empire from the 18th century to the Age of Reform, surveying formulation of colonial policy, growth of the empire, and internal development of the parts. Prereq: 2 or 302 or 390B.

496B. The British Empire-Commonwealth: Victorian Era (3)

British Empire from the Age of Reform to World War I, surveying formulation of colonial policy, growth of the empire, and internal development of the parts. Prereq: 2 or 302 or 390B.

496C. The British Empire-Commonwealth: The Twentieth Century (3)

Evolution of the empire into the commonwealth during the present century; the factors involved in this process and the historical development of its parts. Prereq: 3 or 303 or 390B.

498. Problems in History (3-5, max. 9)

Intensive individual work either in research or individual systematic reading along lines of a student's special interest and under supervision of a member of the staff. Prereq: 24 hrs. and perm.

499. Honors Studies of Selected Historical Topics (3-5)

Study, reading, research and writing on a selected topic for honors work in history. Prereq: perm.

HOME ECONOMICS**CHILD DEVELOPMENT AND FAMILY LIFE****FOODS AND NUTRITION****HOME ECONOMICS EDUCATION AND EXTENSION****HOUSING, FURNISHINGS AND MANAGEMENT****TEXTILES AND CLOTHING**

Professors: Roberts, Womble.

Associate Professors: Bane, Sellers (director).

Assistant Professors: Doxsee, Davis, Langford, Lewis, Macauley, Nehls, Rogers.

Instructors: Hultz, Izard, O'Grady, Slater, Wade.

Part-time Instructors: Black, Boase, Cady, Graham, Hanek.

State District Supervisor: Reed.

The School of Home Economics offers work in the following fields: (1) Child Development and Family Life, (2) Foods and Nutrition, (3) Home Economics Education and Extension, (4) Housing, Furnishings and Management, (5) Textiles and Clothing.

Students majoring in home economics take the basic courses in home economics and courses in general education during the first two years and follow a professional curriculum during the junior and senior years. Requirements for a Bachelor of Science in Home Economics degree are indicated under the School of Home Economics section of the catalog.

Students who are majoring in other departments may elect any of the basic courses in Home Economics.

HOME ECONOMICS

1. Orientation in Home Economics (2)

Introduction to home economics as a field of study with emphasis on career opportunities in various areas. Specialists in each field assist staff.

119. Home Nursing and Family Health (2)

Simple procedures in care of the sick and minor accidents in the home. Study of disease prevention and health promotion for the family. *Black*

399. Field Work in Home Economics (2-5)

- a. Home Economics Extension
- b. Home Service Work With Public Utilities
- c. Food Service Management
- d. Retail Merchandising
- e. Radio-Television
- f. Child and Family Development

Through cooperation with business organizations, department stores, hospitals, radio-television stations, Home Economics Extension Department of Ohio State University, and the Merrill-Palmer Institute, opportunities are given for on-the-job training and practical experience. Prereq: 18 hrs., senior rank.

479. Workshops in Home Economics (2-4, max. 6)

Special workshops for in-service training of home economics teachers. Areas of study include:

- a. Home Economics Education
- b. Clothing and Textiles

- c. Foods and Nutrition
- d. Child Development
- e. Consumer Education
- f. Home Furnishings
- g. Home Management
- h. Household Equipment
- i. School Lunch Management
- j. Family Life Education

Prereq: 340 or equiv.; teaching experience or perm. (Summer quarter)

CHILD DEVELOPMENT AND FAMILY LIFE EDUCATION

Mr. Womble, Chairman

62. Child Development I (3)

Fundamental patterns of development and behavior during prenatal period and preschool years. Directed observation of children in Nursery School setting by closed-circuit television, and of infants in infant laboratory. 3 lec., 1 lab. *Hultz, Lockard*

63. Child Development II (3)

Fundamental patterns of development and behavior during the latency period through adolescence. Directed observation of children by means of selected adult-child community activities. 3 lec., 1 lab. *Hultz, Lockard*

170. Family Living I (3)

Person-centered analysis of basic human relationship processes leading to a successful modern American marriage and family experience. Special discussion and analysis of problems in the beginning family stage. Prereq: Psych. 1 and 2, or 101 and 102. *Rogers*

262. The Nursery School (2)

History, philosophy, and objectives of pre-school education, including current trends. *Nehls*

263. Principles of Preschool Guidance (3)

Application of theories and principles of pre-school guidance by directed observation of adult-child interactions and supervised participation in Nursery School. 2 lec., 2 lab. Prereq: 62 or equiv.; perm. *Hultz, Nehls*

270. Family Living II (3)

Modern family and its relationships beginning at marriage and continuing through subsequent phases of the family cycle. Prereq: Psych. 1 and 2, or 101 and 102. *Womble*

363. Creative Experiences with Preschool Children (4)

Evaluation of materials and activities for use in directing and stimulating creativity in children by means of supervised observation and planned experience in nursery school. 2 lec., 4 lab. Prereq: 263; perm. *Hultz, Nehls*

364. Nursery School Practicum (6)

Laboratory experience in planning, guiding, supervising, and evaluating preschool children's growth and behavior in all phases of a Nursery School program. 1 lec., 20 lab. Prereq: 363; perm. *Nehls*

462. Readings in Child Development (3)

Analysis and interpretation of basic research, theory writings, current controversies, and trends relevant to growth and behavior of children. Experience in abstracting materials from current sources. Prereq: 62 and 63, or 18 hrs. Psychology and/or sociology; perm.

463. Preschool Administration (3)

Consideration of various problems in organizing and administering preschools, play groups, and Head-Start Programs. Field trips to selected programs. Prereq: 262 or perm.

470. Readings in Family Living (3)

Analysis and interpretation of basic research, theory writings, current controversies, and trends relevant to growth and behavior in family living. Experience in abstracting materials from current sources. Prereq: 270, or 18 hrs. of psychology and/or sociology; perm.

471. Family Life Education (3)

Selected fundamental educational problems explored. Examination of various dimensions of teacher's role and critical appraisal of student's professional competency to teach classes in family relations. Field trips to selected family life education programs. Prereq: perm. *Womble*

FOODS AND NUTRITION

Miss Lewis, Chairman

22. Food Science and Principles (3)

Introduction to scientific principles applied to selection, storage and preparation of foods. 2 lec., 2 lab. *Lewis, Wade*

28. Introduction to Nutrition (3)

Relation of foods and nutrition to growth, development and maintenance of health. Emphasis on development of good food habits for children and adults. *Roberts, Wade*

123. Meal Management (3)

Application of principles of food preparation and nutrition emphasizing use of time, energy and resources in management of meals. 2 lec., 3 lab. Prereq: 22, 28. *Lewis, Wade*

229. Cultural and Nutritional Aspects of Food (3)

Food patterns and practices of various cultural groups. Evaluation of these patterns in

meeting dietary needs and factors contributing to these patterns. Prereq: 22, 28. *Roberts, Wade*

320. Creative Cookery and Food Styling (3)

Intensive study of elements of color, design, flavor and texture of food products and styles of cookery. 1 lec., 4 lab. Prereq: 123, 3 hrs. of psychology and 3 hrs. of art.

323. Comparative Studies in Foods (3)

Principles underlying methods of food preservation, purposes and control of use of food additives, factors affecting palatability and retention of nutrients of foods. 2 lec., 3 lab. Prereq: 22, 28 and Zool. 210. *Lewis*

327. Teaching of Foods and Nutrition (3)

Organization of materials and methods of presenting principles of food preparation and nutrition. For majors in foods and nutrition. Not open to those who have had 341. 1 lec., 4 lab. Prereq: senior rank and perm. *Lewis*

422. Experimental Foods (3)

Study of factors which affect results obtained from food processes. Experimental work under controlled conditions. 2 lec., 3 lab. Prereq: 22, Chem. 101 and 102. *Lewis*

423. Food Product Development (3)

Studies of functions of ingredients, factors affecting quality of food products, taste panels, food preference surveys, elements of food industry. 2 lec., 3 lab. Prereq: 323, Econ. 1 or 201. *Lewis*

428. Advanced Nutrition (4)

Principles of nutrition and evaluation of current research as applied to dietary practices for all age groups. Computation of nutritive values of dietaries. 2 lec., 4 lab. Prereq: 28, 123, Chem. 101 and 102 and Zool. 145. *Roberts*

429. Community Nutrition (3)

Study of nutrition needs and practices in agencies serving the community such as Social Welfare, Home Economics Extension, Public Health and School Lunch. Nutrition work with low-income families. Involves some field work. 2 lec., 2 lab. Prereq: 428, S&A 1, and Psych. 1. *Roberts, Wade*

430. Diet Therapy (3)

Application of principles of nutrition in feeding of individuals and use of diet in prevention and treatment of disease. Problems in planning and preparing therapeutic diets. 2 lec., 2 lab. Prereq: 428 and Zool. 363. *Lewis, Roberts*

431. Studies in the Science of Nutrition (3, max. 6)

Advanced studies in nutrition as related to physiological and metabolic processes. Review and critical analysis of research in the field. 2 lec., 3 lab. Prereq: 428 and Zool. 363. *Roberts*

341. Demonstration Techniques (3)

Practical experience in demonstration of foods, equipment, or clothing. Planned for those in secondary education or consumer service. 1 lec., 4 lab. Prereq: 18 hrs. *Lewis, Roberts*

440. Seminar in Home Economics Education (3)

Discussion of student teaching experiences. Particular emphasis given to classroom management, professional responsibilities and specific techniques used for teaching. Must be taken concurrently with Ed. Pl. 463, 464. *Slater, O'Grady*

441. Methods in Home Economics Extension (3)

History and philosophy of Home Economics Extension; principles and procedures of instruction; organization and evaluation of programs. Prereq: 24 hrs. of home economics and 9 hrs. of education. *Langford*

442. Home Economics Education Practicum (2-4)

Laboratory-type course designed to meet needs of home economics education students who wish concentrated study in an area of interest such as adult programs, special education programs, job training experience, and work with handicapped people. Prereq: Senior rank. *Slater*

443. Vocational Home Economics (3)

History and philosophy of vocational home-making education. Contemporary trends, methods, sources of materials, and evaluation. Observation arranged. Prereq: 340 or teaching experience in home economics. *Slater, Sellers*

444. Home Economics in Adult Education (3)

Organization procedures, curriculum materials, and methods of conducting adult education groups in the field of education for family living. Prereq: 26 hrs. *Sellers*

445. Current Developments in Home Economics Education (3)

Current trends and developments in home economics education programs at secondary and post high school levels in relation to curricular developments, evaluation procedures, legislation affecting program and research. 3 lec. Prereq: 340 or 443 and 10 hrs. of education. *Sellers*

450. Problems in Teaching Home Economics (2-4, max. 6)

Opportunity for selection and study of individual problems in teaching. Prereq: 26 hrs. and Ed. Pl. 463, 464.

432. Infant and Child Nutrition (3)

Dietary factors related to nutritional status in pregnancy, infancy, preschool and school age children. Contribution of nutrition education and school lunch program in school curriculum. 2 lec., 2 lab. Prereq: 28 and 62 or Ed. El. 100. *Roberts, Wade*

434. Food Protection and Service (4)

Application of food preparation principles to quantity food production and service. Emphasis on use and care of equipment. Laboratory experience in residence halls. Prereq: 22 and 28. *Macaulay*

435. Purchasing and Cost Control (4)

Studies in production, distribution and storage of food supplies to serve as basis for purchase of such commodities for quantity use including cost control systems. Prereq: 434, Acct. 101, and perm. *Macaulay*

436. Equipment, Maintenance, and Layout (3)

Food service layout and selection of equipment and furnishings, including materials, construction installation, operation, care, and relative cost. Prereq: 434. *Macaulay*

437. Organization and Management (3)

Principles of organization and administration which apply to food service operations in public and private institutions. Administration of labor and standards of work. Prereq: 434 and Acct. 101. *Macaulay*

438. Advanced Food Production Management (2-4)

Individual studies and laboratory experiences in management of personnel and cost control procedures. Prereq: 435, 436, 437, or 14 hrs. institutional mgt, and senior rank. *Macaulay*

HOME ECONOMICS EDUCATION

Miss Sellers, Chairman

340. Teaching of Home Economics (3)

Home Economics programs at junior and senior high school level. Special emphasis is given to vocational education, curriculum development and evaluation procedures. Prereq: junior rank. *Slater, O'Grady*

HOUSING, FURNISHINGS AND MANAGEMENT

Mrs. Rogers, Chairman

80. Furnishing Today's Home (3)

Practical and esthetic study of home furnishings, including basic art qualities, studies in color and design; materials used in furnishings; selection and arrangement of furniture and accessories. *Langford*

180. Family Housing (3)

Housing needs of the family and factors influencing housing. Evaluation and designing of floor plans for effective use of space in the home. 2 lec., 1 lab. Prereq: 80. *Langford*

190. Family Consumer Economics (3)

Management of personal and family financial problems. Retailing activities as they affect the role of the consumer. 1 lec., 2 lab. *Macaulay*

380. Home Furnishings Workshop (4)

Laboratory problems in advanced techniques in home furnishings, including upholstering, slip-covering, refinishing furniture, and construction of draperies. 1 lec., 3 lab. Prereq: 12, 80 or 6 hrs. of art and perm. *Langford*

391. Household Equipment (3)

Basic principles in selection and use of household equipment including materials, construction, operation, and care. 1 lec., 4 lab. Prereq: 22, 190. *Macaulay*

395. Home Management (3)

Principles of decision making applied to use of family resources with purpose of creating a family environment in which optimum human development will occur. Prereq: 9 hrs. of psychology, sociology, or economics and junior rank. *Rogers*

396. Home Management Laboratory (4)

Application of principles of decision making and management in a group living situation. Home Management house experience provided. Prereq: 395 or with 395 and perm. *Rogers*

439. Studies in Household Equipment and/or Management (2-4, max. 6)

Provides an opportunity for student to pursue study in a selected area of Home Management and/or Household Equipment, under supervision. Prereq: 391, 395.

480. Advanced Home Furnishings (3)

Qualities and styles of furniture and furnishings. Emphasis on periods of the past and their esthetic influence on the present. Prac-

tical projects in decorating and furnishing a home. 2 lec., 1 lab. Prereq: 80, 180, Art 101 and 102, and perm. *Langford*

481. Contemporary Design in Furnishings (3)

Furnishings and interiors of the present era; factors that have influenced development of contemporary design; important designers and their work. Prereq: 80, 480 and 6 hrs. of art, or perm. *Langford*

482. Design in Home Accessories (3)

Esthetic study of development of design in accessories of glass, pottery, oriental rugs, metals such as silver, and pewter. Use of accessories in home and in displays. Prereq: 80, 6 hrs. of art and perm. or 480. *Langford*

492. Household Equipment Techniques (3)

Critical analysis of home equipment to establish standards of effective use. Emphasis on lighting, water and cleaning equipment, and kitchen planning. 1 lec., 4 lab. Prereq: 391. *Macaulay*

TEXTILES AND CLOTHING

Miss Bane, Chairman

10. Theory of Clothing Construction (2)

Scientific principles as applied to understanding and use of the commercial pattern, to pattern alterations and to cutting and layout problems. 2 lec., labs as assigned. *Bane*

12. Principles of Clothing Construction (3)

Application of fundamental principles of clothing construction to individual projects. Emphasis on scientific thought, creative expression, and construction techniques. 1 lec., 5 lab. Prereq: 10. *Doxsee, Izard*

15. Elementary Textiles (3)

Fundamentals of textiles including study of textile fibers, yarns, fabrics, and finishes with reference to production, processing, use and care. 2 lec., 2 lab. *Izard*

203. Intermediate Textiles (3)

Physical and chemical examination of fibers and fabrics. Problems in comparison and evaluation of fabrics and fibers. 1 lec., 4 lab. Prereq: 15, Chem. 10. *Doxsee*

208. Fashion Fundamentals (3)

Factors which influence merchandising of fashion goods. Methods of fashion promotion stressed. Prereq: 12, 15, Econ. 2 or 202.

215. Textiles and Dress in Modern Living (2)

Contemporary uses and roles of textiles and clothing as affected by economics, social, and

psychological forces seen in historic perspective. Prereq: Psych. 1 or 101, S & A 1 or 101. *Doxsee*

303. Advanced Textiles (4)

Advanced study of textile fibers and fabrics through standard testing procedures. 2 lec., 5 lab. Prereq: 203, Chem. 12. *Doxsee*

308. Advanced Clothing Construction (4)

Advanced problems and techniques of clothing construction. Creative expression through selection of individual projects. 2 lec., 4 lab. Prereq: 12, 15. *Bane*

312. Fashion Merchandising (3)

Processes involved in planning, promoting, controlling, buying, and selling of fashion merchandise. Prereq: 208, Mkt. 255. *Bane*

402. Flat Pattern Design (3)

Principles of flat pattern designing with emphasis on fitting techniques and use and understanding of commercial patterns. 2 lec., 4 lab. Prereq: 12 and 15. *Bane*

404. Advanced Dress Design (3)

Principles of draping with emphasis on creative design, fitting and manufacturing problems. 1 lec., 5 lab. Prereq: 203, 308.

405. History of Costume and Textiles (3)

Costume and textiles through the ages as a reflection of the historical period and as a source for present day design. Prereq: 12, 15. *Doxsee*

407. The Textile and Clothing Industry (3)

Problems confronting buyer of textile products as related to specific manufacturing situations involved. Prereq: 15, Mkt. 255. *Doxsee*

HOME ECONOMICS PROGRAMS FOR INTERNATIONAL STUDENTS

Miss Roberts, Coordinator

The increased number of International students studying Home Economics at the professional level warrants a special program relating Home Economics to family and community development in their different cultures and communities.

The International Home Center and Library established by the School of Home Economics is of special value in the training of students from other countries. Laboratories in the Home Center are set up to demonstrate good practice in home and community development which can be readily adapted to any of the nations.

Classroom and laboratory work taken with regular university classes is supplemented each semester with seminars relating the student's work to her home country. First, the students are given the opportunity to analyze their respective countries for the prevailing social and economic conditions, the health and sanitation problems, the nutritional status of the people, and the cultural and religious patterns and how they affect the home and the family.

Later seminars are concerned with specific areas which need special study, such as Nutrition and Food Habits; Health and Home Care of the Sick; Food Preservation; Sanitation; Infant and Child Care; Clothing; Home Improvement and Home Management; and Housing and Community Development. Seminars include not only discussion but some demonstrations and laboratory practice.

Summer programs may be developed for students needing special training in some areas of home economics, participants in the Peace Corps program, or faculty who are concerned with the training of International students.

459. Home Economics Seminars, Workshops, and Short Courses in International Service (2-4)

Special seminars or workshops for International Students or for Home Economics majors who want to prepare for International service. Discussions, laboratory work, and field trips. Prereq: junior rank, perm.

- a. World Food Supply and Human Nutrition
- b. Sanitation and Health Problems
- c. Cultural, Religious and Social Influences on Family Life
- d. Cultural, Religious, and Social Influences on Food Patterns and Nutrition
- e. Working with Low-Income and Disadvantaged Families
- f. Home and Community Development, Including Home Management
- g. Infant and Child Care Services
- h. Establishing Home Economics Extension and Other Adult Programs in Developing Countries of the World
- i. Curriculum Studies and Evaluation of International Home Economics Programs at the Elementary and Secondary Level
- j. Curriculum Studies and Evaluation of International Home Economics Programs and Research in Higher Education

HUMAN RELATIONS

See Education Guidance.

HUMANITIES

See General Studies.

INDUSTRIAL TECHNOLOGY

Professor: Perry (chairman).

Associate Professors: Hawk, Paige.

Assistant Professors: Adams, Calvin, Creighton, Jenkins, Squibb, Shull.

Instructors: Huffman, Moore, Roth.

The requirements for an industrial arts major in the program leading to a Bachelor of Science in Education degree are outlined in the College of Education section of the catalog. The program outline for the Bachelor of Science in Industrial Technology degree is described in the College of Engineering and Technology. A teaching option is available under Industrial Technology.

9. Crafts (2)

Fundamentals of working with leather, art metal, enameling, and plastics. Open to any student in the University. 4 lab. *Moore*

15. Metal Fabrication (3)

Production practice, including cutting, forming, and joining of metals. 1 lec., 4 lab. *Calvin, Squibb*

17. Metalworking for Engineers (3)

Practice directed toward learning capability of various metal cutting, forming, and joining machines. 6 lab. Prereq: Engineering Major. *Roth*

80. Driver Education (2)

For novice drivers. Credit and points not counted toward a degree. 2 lec., 2 lab. Fee \$15. *Moore*

116. Metal Machining (3)

Practice operation of cutting, grinding, and electrical discharge machines, with emphasis on factors affecting quality control during production. 1 lec., 4 lab. Prereq: E.G. 1. *Calvin, Squibb*

120. Small Engines (3)

Practice in assembly, adjustment, and gauging procedures, as applied to small two-cycle and four-cycle gasoline engines. 1 lec., 4 lab. Prereq: Physics 5. *Moore, Shull*

132. Industrial Electricity (5)

Experimental activity aimed toward development of proficiency in utilizing test instruments, and learning characteristics of components commonly employed in simple circuits. 2 lec., 6 lab. Prereq: Physics 6. *Creighton, Perry*

150. The Wood Industry (3)

Woodworking procedures and technology, including machine operation. 1 lec., 4 lab. Prereq: E.G. 1. *Adams, Huffman*

170. Technical Report Writing (1)

Practice toward illustration of reporting style and format expected within subsequent departmental classes. 1 lec. Prereq: Eng. 8. *Perry*

201. Ceramic Production (3)

Study and practice with ceramic materials, with emphasis on production processes. 1 lec., 4 lab. Prereq: Chem. 10. *Hawk*

233. Semi-Conductor Applications (3)

Experimental activity revealing performance characteristics of typical components, and their functions in basic circuits. 1 lec., 4 lab. Prereq: 132. *Creighton*

244. Graphic Processes (5)

Practice in production methods applied to letterpress, offset, and screen process printing. 2 lec., 6 lab. Prereq: E.G. 2. *Jenkins*

250. Wood Industry for Teachers (5)

Woodworking procedures and technology including machine operation. Study of procedure for inclusion in high school programs. 2 lec., 6 lab. Prereq: E.G. 2. *Adams*

302. Vitreous Materials (2)

Application of industrial ceramic products to problems associated with manufacturing. 4 lab. Prereq: 201. *Hawk*

308. Plastics Forming (3)

Applications involving typical materials and forming techniques in production of plastic objects. 1 lec., 4 lab. Prereq: 150 or 250 and Chem. 11. *Huffman*

310. Patternmaking and Foundry (3)

Foundry practice extending from pattern design through production of finished casting. 1 lec., 4 lab. Prereq: 150 or 250 and Chem. 11. *Adams*

311. Weld Design and Testing (2)

Practice of varied types of welds, using arc, shielded arc, oxy-acetylene, and spot welders. Analysis of results based upon testing. 4 lab. Prereq: 15 and 116. *Squibb*

312. Machined Metals Production (3)

Advanced practice of machining techniques organized to illustrate applications of quantity and quality control. 1 lec., 4 lab. Prereq: 116 and Mgt. 210. *Calvin*

318. Numerical Control Programming (2)

Metal machining extending from planning of work program through production of finished article. 4 lab. Prereq: 17 or 116 and Math. 6. *Roth*

320. Hydraulic Controls (3)

Application of hydraulic principles to common industrial utilizations for power transmission and mechanism control. Emphasis on study of hardware and circuitry. 1 lec., 4 lab. Prereq: Physics 5. *Paige*

321. Pneumatic Circuits and Controls (3)

Study of components and circuits utilizing compressed air for power and control systems. 1 lec., 4 lab. Prereq: 320. *Paige*

323. Automotive Theory (5)

Study of adjustments affecting performance, and overhaul procedures. Dynamometer testing of performance characteristics. 2 lec., 6 lab. Prereq: 120. *Moore, Shull*

336. Bioelectronics (3)

Laboratory course for biological science majors. Included are electronic principles and circuits, equipment operation, and component selection. Emphasis on measurement and instrumentation. 6 lab. Prereq: Physics 6. *Creighton*

341. Process Photography (3)

Applications of photography, with emphasis upon standardization and quality control, from exposure through printing by photo-offset and screen process methods. 1 lec., 4 lab. Prereq: 244 and Physics 7. *Jenkins*

342. Color Reproduction (3)

Production of multiple-color materials, including preparation of copy, photography, and printing by offset or screen process. 1 lec., 4 lab. Prereq: 341. *Jenkins*

350. Wood Lamination and Forming (3)

Practice in shaping objects from wood through lamination, and methods other than cutting, as illustration of processes currently employed in industry. 1 lec., 4 lab. Prereq: 150 or 250 and Chem. 11. *Huffman*

351. Production Jigs and Fixtures (3)

Practice in planning and constructing supplemental devices aimed toward increasing production quantity and quality in woodworking industry. 1 lec., 4 lab. Prereq: 150 or 250. *Adams*

361. Industrial Arts Design (2)

Design principles applied through development of projects for industrial arts activity. 4 lab. Prereq: 244 and 250. *Hawlk*

362. Product Design and Manufacture (3)

Design of a simple product, and development of entire plan for its manufacture, including sequence of operations, supply and work flow,

personnel requirements, production rate, and cost predictions. 6 lab. Prereq: E.G. 15 and Mgt. 210. *Hawlk*

380. Driver Safety Education (3)

Study of current traffic conditions and regulations affecting driving as preparation to becoming instructors in driver education. Laboratory involves working with novice drivers. 2 lec., 2 lab. Prereq: Psych. 175. *Moore*

381. Teaching Traffic Safety (3)

Organization and administration of driver education, including study of related attitudes, and methods practiced in existing programs. Practice instruction included. 2 lec., 2 lab. Prereq: 330. *Moore*

390. Industrial Materials (3)

Study of sources, manufacture, and applications of common materials not given more extensive coverage within other departmental courses. 3 lec. Prereq: 12 hrs. *Paige*

391. Industrial Arts for the Elementary School (2)

Planning and construction of projects designed to supplement other instruction at elementary level. 4 lab. Prereq: Elem. Ed. Major. *Hawlk*

395. Supervised Work Experience (5, max. 15)

Work-study participation in established industrial training programs. Credit dependent upon advance registration and acceptance by approved companies participating in program. Prereq: perm. *Squibb*

396. Supervisory Practice (3)

Practice supervision, simulating foremanship level, of students involved in production activity, within other departmental courses. 1 lec., 4 lab. Prereq: 395 or perm. *Squibb*

413. Metalworking Dies (3)

Preparation and utilization of punching and forming dies for working metal according to commonly employed industrial processes. 1 lec., 4 lab. Prereq: 312. *Adams*

421. Power Transmission (2)

Practice with common power transmission units, including study of transmission efficiency, and adjustments affecting operational characteristics. 4 lab. Prereq: 323. *Shull*

435. Machine Control Circuits (3)

Combinations of basic electronic circuitry in more complex arrangements commonly employed for machine control. Emphasis upon adjustment and correction of malfunctioning controls. 1 lec., 4 lab. Prereq: 233. *Creighton*

436. Electronic Applications (3)

Advanced experimental work on individual problems, as approved by instructor, for extension of knowledge from previous courses. 6 lab. Prereq: 233 or 336. *Creighton*

443. Problems in Graphics (2, max. 4)

Problem solving in graphic reproduction, as means of depth study in specific phases of this area. 4 lab. Prereq: 341. *Jenkins*

470. Teaching of Industrial Arts (3)

Methods of presenting technical and related material in industrial arts classes. 3 lec. Prereq: Ed. 323 and 12 hrs. *Squibb*

483. Industrial Safety Programs (2)

Organizational patterns of safety programs, and how they are applied, in manufacturing industry. 3 lec. Prereq: 12 hrs. *Moore, Roth*

484. Industrial Maintenance Programs (3)

Maintenance procedures common to manufacturing industries with practice applications within departmental machine laboratories. 1 lec., 4 lab. Prereq: 12 hrs. *Adams*

ITALIAN

See Modern Languages.

JOURNALISM

Professors: Baird, Sargent, Turnbull.

Associate Professors: Gentry, Stempel, Wagner.

Assistant Professors: Click, Culbertson, Izard, Kliesch, Lambert.

Part-Time Instructors: McDargh, Powers, Reamer.

Part-Time Lecturer: Keller.

1. Introduction to Journalism and Mass Communications (3)

Analysis of forms and purposes of journalistic communications — reporting, editing, management, advertising, radio and television news, public relations, free lance and feature writing, photo-journalism; opportunities for careers in the various sequences; guidance and counseling; survey of facilities. Freshmen.

211. History of American Journalism (5)

Development of newspaper, magazine, and radio journalism from the colonial period to the present. Political, economic and mechanical aspects. Prereq: Eng. 80. *Baird, Kliesch*

221. Graphics of Communication (5)

Creative and practical aspects of typography, layout and design for all printed media. Includes history of graphic arts and descriptions of latest processes. *Baird, Turnbull, Click*

231. Newspaper Reporting (5)

Instruction in methods of gathering material and writing news reports, interviews, reports of speeches, follow-ups and re-writes, human interest stories, and specialized news. Practice work covering assignments and preparing copy. Prereq: Eng. 80 and ability to type. *Baird, Click, Gentry, Izard, Keller, Lambert*

321. Newspaper Advertising and Layout (4)

Operation of the advertising department from the viewpoint of the advertising manager. Prereq: 250 or Mkt. 250. *McDargh*

323. Newspaper Advertising Practice (2)

Laboratory work in preparing copy for local display advertisers of *The Athens Messenger*. Other practice problems in fields of classified, national, and promotion advertising. Prereq: 321 and perm. *McDargh*

331. Contemporary Thought and Developments (3)

Contributions in all phases of modern society discussed by faculty members and other authorities. Students are required to do reference reading and to write news reports of the discussions. Prereq: 231, junior or senior rank. *Click, Izard, Sargent*

332. Reporting Practice (2)

Students assigned to general reporting on *The Athens Messenger*, which includes covering of definite news beats as well as special assignments. Prereq: 231 and perm. *Reamer*

333. Newspaper and Magazine Editing (4)

Principles and practices of copyreading, headline writing, illustration, and make-up for newspapers, tabloids, and magazines. Other phases: picture editing, desk problems, wire and syndicate material. Prereq: 231. *Culbertson, Izard, Lambert, Stempel*

334. Editing Practice (2)

Students assigned to copyreading on *The Athens Messenger*, handling local correspondence, and wire copy, and working out make-up problems. Prereq: 333 and perm. *Powers*

351. Radio-Television News Writing and Editing (3)

Study and practice of writing and editing news for broadcasting. Students will prepare radio news from local sources and press services. Prereq: 231, perm. *Wagner*

353. Radio-Television News Practice (2)

Laboratory course in production of regular newscasts covering both preparation of copy and actual broadcasts of the script over University radio and television stations. Prereq: 351 or perm. *Wagner*

362. The Community Newspaper (3)

Stresses editorial and business phases of weeklies and small dailies. Problems include editing, editorial writing, and rural correspondence; school, church, and business life; circulation, advertising, job printing, and mechanical equipment. Prereq: Eng. 80.

363. Reviewing and Criticism (3)

Written criticism of fine and popular arts. Analysis of special role of the critical writer for mass media, who must be both reporter and evaluator of artistic works for a lay audience. Prereq: 231, Eng. 80. *Gentry*

411. Newspaper and Communications Law (3)

Principles and case studies of the law of the press with emphasis on constitutional guarantees, libel, contempt, privacy, copyright, privilege, and administrative controls. Some consideration of regulations pertaining to radio and television. Prereq: 333, senior rank. *Hortin, Sargent, Stempel*

421. Graphic Production Processes (5)

Advanced study of all processes for reproducing the printed word and pictures. Emphasis is placed on developing a thorough understanding of the latest developments in each process as they affect editing, advertising, and public relations. Includes theory and laboratory work. Prereq: perm. *Turnbull, Staff*

422. Advertising Production (3)

Study of mechanical, graphic, and creative methods of advertising production; comparative analysis of printing processes; relation of color, art work, type, media, and quality of paper to advertising purpose. Prereq: 321 or Advt. 432 or perm. *Turnbull*

431. Industrial and Business Magazines (3)

Study of industrial, business, and institutional publications. Analysis of contents, purposes, and readership of such publications. Practice in copy preparation and make-up. Staff, costs, printing, and circulation are considered. Prereq: 221. *Baird, Click*

441. Feature and Magazine Writing (4)

Newspaper, magazine, and pictorial features, followed by practice in writing and marketing of various types. Includes finding subjects, securing photographs, writing articles, and surveying markets. Prereq: 231 or 15 hrs. of English or perm. *Baird, Sargent*

442. Advanced Feature and Magazine Writing (3)

Students are permitted wide range in selecting feature subjects. High-grade writing is stressed. Prereq: 441. *Culbertson, Gentry, Kliesch*

451. Television News Production (2)

Preparation and production of television news. Experience in visual presentation of news and discussion of organization and policies of the television newsroom. Prereq: 351 or perm. *Wagner*

455. Seminar in Broadcast News (3)

Discussion of problems — operational, social, legal and ethical — faced by broadcasters covering today's news. Prereq: perm. *Wagner*

461. Specialized Journalism (4)

Designed for students desiring training in special fields — science, sports, society, politics, military, home economics, agriculture, religious activities, teaching journalism, music, and other approved areas. Prereq: junior rank or above, perm. *Click, Kliesch, Staff*

462. Internship (4)

Conference course open only to students who have completed their internship work with an approved organization. Students will submit a comprehensive report involving analysis and problems encountered during the summer training. Prereq: only by perm.; junior rank or above, and completion of summer internship.

464. Reporting of Public Affairs (3)

Study of governmental, civic, and business organizations: courts, legal procedure, city and county government, state and national organizations, banks, political parties, and community activities. Prereq: 332 or perm. and senior rank in journalism. *Wagner, Staff*

465. The Editorial Page (3)

Analysis of the unique place of the editorial page in opinion formation, dealing with problems of content selection and presentation. Extensive writing of analytical and persuasive editorials, and interpretive articles in depth. Prereq: 332 or 12 hrs. of English, and senior rank, or perm. *Gentry*

466. International Communications (5)

Development and operations of mass communications channels and agencies by which news is gathered and disseminated throughout the world. Comparative analysis of media practices and the flow of news among various major countries. Relation of communication practices to international policies and programs. Prereq: perm. *Kliesch, Staff*

471. Public Relations Principles (5)

Study and practice of fundamental public relations functions. Emphasis is placed on polling, publicity writing, and preparation of

literature of business organizations — house organs, reports, pamphlets, advertisements, leaflets, manuals, and letters. Prereq: 231, 221, and junior rank or perm. *Culbertson*

472. Advanced Public Relations (4)

Advanced public relations problems, policies, and practices of various institutions and organizations in modern society. Attention focused on public relations program development. Prereq: 471 or perm. *Culbertson, Staff*

481. Newspaper Management (3)

Problems and economics of publishing. Consideration is given to policy making as it affects all departments of the newspaper plant. Prereq: junior or senior rank. *Turnbull*

482. Radio-Television Advertising and Management (4)

Business principles and practices in the broadcasting industry, dealing with problems in radio and television station operation, with major emphasis on time sales. Prereq: 250 or Mkt. 250 or perm. *Turnbull*

484. Supervising School and College Publications (4)

Conference course for advisers of high school and college newspapers, magazines, and yearbooks. Problems relating to staff selection, content of publications, copy, layout, photography, printing, advertising, and business phases. In summer sessions the Publications Workshop will be analyzed on a case study basis. Prereq: 12 hrs. or perm. *Baird, Staff*

491. Research in Journalism and Communications (3)

Prereq: 8 hrs. in journalism and advertising, perm.

LIBRARY SCIENCE

101, 102. The Use of Library Resources (3, 3)
Training in effective use of modern library reference resources. Given in two quarters with general works stressed in 101 and specific subject reference in 102. Required for a minor in library science. 101 is prereq. for 102, but may be taken without 102 by those who do not choose to minor in library science. Three times a week. *Betcher, Johnson*

103. The School Library (5)

Methods and materials in organizing and developing school library service. Required for a minor in library science. Five times a week. *Linnenbruegge*

201. Library Services for Children (4)

Book selection and group work with children, including story programs, book talks, library lessons, and practical experience with children. Three times a week, plus one 2-hr. laboratory period. Prereq: 103, Ed. El. 321. *Gardin*

202. Books for High School Readers (4)

Librarians look at books for whole reading approach to literature, including pleasure reading outside classroom. Three times a week and evidence of extensive reading (equiv. to one quarter hr.) through reports and discussion. *Linnenbruegge*

203. Classification and Cataloging (5)

Training in classifying and cataloging books with practice in preparation of a card catalog for a high school library. Required for a minor in library science. Twice a week for 2 hrs., plus one 2-hr. laboratory. *Linnenbruegge*

301. History of Books and Printing (3)

Development of books and printing from early times to the present. Three times a week. *Boyd*

302. Advanced Library Studies (2-5)

Elective designed for student who wants to explore some facet of library work in greater depth. Prereq: must be discussed with instructor. Arranged.

LINGUISTICS

See English.

MANAGEMENT

Professor: Hellebrandt.

Associate Professors: Grieco, Hersey (chairman), Prasad.

Assistant Professors: Bolon, Weaver.

Lecturer: Anton.

300. Management (4)

Management, integrating function of business organization.

310. Production (3)

Productive process and its place in business activity. Prereq: 300, Quan. Methods 255 and 256 or perm.

311. Production Planning and Control (4)

Development of scientific approach to solution of planning and control problems in production process. Prereq: 310.

320. Administration of Personnel (4)

Compendium of practices in personnel management. Consideration of such areas as employee selection, training, performance evaluation, and wage and salary administration. Prereq: 300 or perm.

410. Advanced Production Problems

Case studies of production problems in a number of different industries; designed to apply to all phases of student's training and experience. Prereq: 311 or perm.

420. Personnel Management Problems (4)

Personnel problems and their relation to various management concepts. Case approach. Prereq: 320 or perm.

421. Wage and Salary Administration (3)

Factors determining industrial wage and salary policies, methods of employee payments, wage relationships, wage rate setting, incentive wage plans. Techniques and methods of implementing wage and salary policies. Lab. oriented. Prereq: 320 or perm.

425. Industrial Relations (4)

Objectives, establishment, and procedures of collective bargaining; administration of labor contracts; labor-management conflict and cooperation; methods of conciliation, mediation, and arbitration. Case method. Prereq: 300 or perm.

430. Information Management (3)

Analysis of basic data processing activities, telecommunications, and information flows in business organizations within a total-systems framework. Systems-analysis, cases, and individual research problems. Prereq: 300 or perm.

440. Organizational Theory and Behavior (4)

Decision implementation in organizations including effects on worker motivation and morale. Emphasis on development of harmonious productive relationships through effective communication and leadership. Conceptual framework of psychology, sociology, anthropology, political science and other behavioral disciplines to management and organization. Prereq: 300 or perm.

450. Management Responsibilities in Society (3)

Prereq: 300 or perm.

470. Administrative Policy I (3)

Integration of subject matter in functional areas of core curriculum through study of problems of top management, organization, administration techniques, and policy formulation. Prereq: senior rank in College of Business Administration or perm.

471. Administrative Policy II (3)

Prereq: 470.

481. Research in Management (1-6)

Prereq: perm.

491. Seminar in Management (3, max. 9)

Prereq: perm.

MARKETING

Professors: Krauskopf, Raymond.

Associate Professor: Muse (chairman).

Assistant Professors: Cox, Hewitt, Richmond.

Instructor: Watts.

Lecturer: Kegerreis.

250. Advertising Principles (5)

Major factors in development of a firm's advertising program. Prereq: sophomore rank.

301. Basic Concepts of Marketing I (3)

Basic concepts in marketing of goods to consumers and industrial users. Prereq: Econ. 2.

302. Basic Concepts of Marketing II (3)

Strategies involved in marketing of goods to consumers and industrial users. Prereq: 301.

303. Analysis of Marketing Problems (3)

Problems facing the manufacturer and middleman in their marketing efforts. Prereq: 302.

350. Advertising Copywriting (3)

Elementary essentials of advertising copy developed by study of current theory and analysis of tested examples. Prereq: 250.

401. Management of Distribution (3)

Problems encountered by manufacturer in establishing and maintaining an effective distribution system. Prereq: 303.

425. Industrial Marketing (3)

Problems involved in marketing of industrial products. Prereq: 303.

441. International Marketing (3)

Problems faced by firms marketing products on an international scale. Prereq: 303.

444. Consumer Behavior (3)

Individual, social, and cultural influences that mold consumer and consumption behavior. Prereq: 303, six hrs. of psychology and/or sociology.

450. Management of Promotion (3)

Problems faced by a firm in developing an effective promotional program. Prereq: 250, 303.

458. Selling and Sales Management (3)

Principles and practices in planning, organizing, and controlling a sales force. Selection, training, compensating, supervising, and stimulating salesmen, with some emphasis on personal selling techniques. Prereq: 303.

479. Marketing Research (3)

Techniques involved in collection, tabulation, and analysis of marketing information. Prereq: 21 hrs. of business administration and 9 hrs. of marketing.

480. Mathematical Methods of Marketing Analysis (3)

Quantitative techniques that can be used in analysis of marketing problems and application of these methods to problem situations. Prereq: 303, 9 hrs. of quantitative methods.

481. Individual Research in Marketing (1-8)

Individual research project in area of marketing undertaken by the student under guidance of a selected professor. Prereq: 24 hrs. of business administration and 9 hrs. of marketing.

491. Seminar in Marketing (4)

In-depth examination of vital issues and current developments in marketing. Prereq: 24 hrs. of business administration and 9 hrs. of marketing.

MATHEMATICS

Visiting Professor: Barnett.

Professors: Butner, Denbow (chairman), Goedcke, Jasper, Spring.

Associate Professor: Mehr.

Assistant Professors: Anderson, Atalla, Bustoz, Eldridge, Golos, Shankar.

Instructors: Bakker, Baldwin, Baumgartner, Bryan, Carlos, Duncan, Goodrich, Irwin, Karns, LeBoutillier, Lifsey, Lustfield, Lyle, Lynge, McInerney, Patrick, Rosalsky, Walter, Wegener, Wyzale.

The major requirement for the A.B. or B.S. degree consists of Math. 63A-B-C, Math. 113A-B-C, Math. 163A-B, plus 5 additional hours at 200 level or above plus at least 12 hours of courses at the 400 level and above, a total of 51 hours.

Certain additions and selections of courses must be made to prepare for secondary teaching; see a mathematics education advisor in the department of mathematics or in the College of Education.

1. Elementary Algebra (5)

For students with no high school algebra. Credit and points not counted toward degree. (Summer quarter)

2. Euclidean Geometry (5)

For students with no high school geometry. Prereq: 1, or 1 yr. high school algebra. Credit and points not counted toward degree. (Summer quarter)

3. Algebra (3)

Exponents and radicals; linear and quadratic equations; fractions, factoring: Theory of Equations. Non-credit after 2 yrs. of high school algebra. Prereq: 2, or 1 yr. each of algebra and geometry in high school. (Fall, Spring and Summer quarters)

5. Introduction to Mathematics (3)

Selected topics in sets, introduction to logic and proof, inequalities, number systems, functions, polynomials, and mathematical induction. Prereq: 2, or 1 yr. each of algebra and geometry in high school.

6. Analytic Trigonometry (2)

Trigonometric functions and their properties; identities, equations, applications. Prereq: 3 or 5, or 2 yr. high school algebra and 1 yr. high school geometry. (Winter, Spring and Summer quarters)

20A-B-C. Foundations of Elementary Mathematics (3-3-3)

Introduction to mathematical reasoning, structure of number system with justification of algorithms, introduction to geometry. Open to elementary education majors only. Prereq: 2, or high school algebra, plane geometry. (Sequence starts Fall and Winter quarters)

60A-B-C. Fundamental Concepts of Calculus (3-3-3)

Differential and integral calculus of algebraic, exponential, and logarithmic functions with supporting analytic geometry. For students in management, social, and biological sciences. Prereq: 3 or 5, or 2 yr. high school algebra and 1 yr. high school geometry. (Sequence starts Fall and Winter quarters)

63A-B-C. Analytic Geometry and Calculus (5-5-3)

Functions and limits, differentiation and integration, analytic geometry, vectors, transcendental functions, applications, polar coordinates. Prereq. for 63A, 5 or direct placement. Prereq. for 63B, 6 or equiv., or with 6, and 63A.

64. Special Transitional Course (5)

To be taken by students who have completed old Math. 16; to be followed by the new Math. 163A. (Fall quarter)

113A-B-C. Elementary Linear and Abstract Algebra (3-3-3)

Elementary properties of matrices, determinants, and linear systems. Divisibility concepts, congruences, polynomials over a field, transformation groups. Prereq: Math. 63A or Math. 60C. (Sequence starts Fall and Spring quarters)

163A-B. Analytic Geometry and Calculus (3-3)

Solid analytic geometry, partial differentiation, multiple integrals, infinite series, expansion of functions. Prereq: 63C.

230A-B. College Geometry (3-3)

Review of elementary plane Euclidean geometry. Selected topics in axiomatics, modern Euclidean and non-Euclidean geometries. Prereq: 113A. (Sequence starts Fall and Winter quarters) *Golos*

240. Differential Equations (5)

Ordinary differential equations and related topics. Prereq: 163B.

250A-B. Introduction to Mathematical Statistics (3-3)

Introduction to probability and sampling theory, with applications. Topics in Statistics. Prereq: 63B. (Sequence starts Fall and Winter quarters)

320A-B. Teaching of Mathematics in Secondary Schools (2-3)

Analysis of basic ideas of algebra and geometry. Methods of presenting topics in these subjects to secondary school students. Prereq: (for 320A), 113A. (For 320B), 230B and 113C. (Sequence starts Fall and Winter quarters) *Lifsey*

406A-B. Foundations of Mathematics (3-3)

Axiomatic development of real number system, and other topics. Prereq: 113C. (Sequence starts Winter quarter)

407A-B-C. Number Theory (3-3-3)

Topics in ordinary and algebraic number theory. Prereq: 163B. (Sequence starts Fall quarter) *Barnett*

410. Matrix Theory (3)

Matrix algebra and applications, linear equations, vector spaces and linear transformations. Not open to those who have completed 113B. Prereq: 163B. (Fall quarter)

413A-B-C. Introduction to Modern Algebra (3-3-3)

Elementary theory of groups, rings, and fields. Prereq: 113C or with 410. (Sequence starts Fall quarter)

419. Topics in Algebra (3)

When demand is sufficient, course in some phase of algebra will be offered under this number. Prereq: perm.

433. Projective Geometry (3)

Prereq: 163B. (Spring quarter)

439. Topics in Geometry (3)

When demand is sufficient, course in some phase of geometry will be offered under this number. Prereq: perm.

440. Vector Analysis (3)

Prereq: 163B. (Fall quarter)

441. Fourier Analysis and Partial Differential Equations (3)

Prereq: 240. (Winter and Spring quarters)

442. Theory of Linear Programming (3)

Real linear algebra, solutions of systems of equalities and inequalities. Fundamental theorem of duality and equilibrium theorem, with applications involving simplex method. Prereq: 113B. (Spring quarter)

444. Numerical Analysis (3)

Approximate solutions of applied problems. Interpolation theory, curve fitting, approximate integration, and numerical solution of differential equations. Prereq: 163B. (Winter quarter)

446. Computer Numerical Analysis (3)

Numerical methods for matrix inversion, eigen-values, solutions of partial differential equations, function representation, and simulation. Prereq: 410 and C.S. 218. (Spring quarter)

450A-B-C. Theory of Statistics (3-3-3)

Probability distributions of one and several variables, sampling theory, estimation of parameters, confidence intervals, analysis of variance, correlation, and testing of statistical hypotheses. Prereq: 163B. (Sequence starts Fall quarter)

460A-B-C. Advanced Calculus (3-3-3)

Critical treatment of limits, continuity, differentiation of functions of one and several variables, series, and theory of integration. Prereq: 163B. (Sequence starts Fall quarter)

463A-B. Applied Complex Variables (3-3)
 Analytic and harmonic functions, Cauchy integral and residue theorems, contour integration, Taylor and Laurent expansions, conformality and linear transformations with applications. Prereq: 240. (Fall and Winter quarters)

480. Elementary Point Set Topology (3)

Introduction to set theory, cardinal and ordinal numbers, general topological spaces and continuity, Homeomorphism, metric spaces. Prereq: 460A. (Winter quarter)

490. Selected Topics in Mathematics (3)

When demand is sufficient, course in some phase of mathematics will be offered under this number. Prereq: perm.

491. Studies in Mathematics

Selected topics in mathematics studied under guidance of an instructor particularly interested in the field. Prereq: 6 hrs. of 400-level courses and senior rank, or junior rank in Honors College, or perm. of chairman.

MEDICAL TECHNOLOGY

See Zoology.

MODERN LANGUAGES

FRENCH

GERMAN

ITALIAN

PORtUGUESE

RUSSIAN

SPANISH

Professors: Cameron, Flum, O'Nan, Krauss, Previtali, Renkenberger.

Associate Professors: Cannaday, Frink, La-John.

Assistant Professors: Carrier, Nybakken, Ser-na-Maytorena.

Instructors: Adams, Axelrod, Bald, Barstad, Bartlow, Baysden, Bolen, Borchette, Burns, Cannaday, Conliffe, Danner, Mrs. Danner, Fife, Frankman, Franks, Gilderman, Goepper, Ipacs, Konforti, MacDonald, Mahler, Martello, Perez, Rauschenberg, Richardson, Santaló, Silva, Silver, Smith, Spires, Sterlin, Thomas, Torres, Whalen.

The major requirement for the A.B. degree is a minimum of 35 quarter hours beyond 198. Specific course requirements are 209, 210, 331, 332, 333, 341 or 342, and at least 15

quarter hours at the 400 level. Students planning to do graduate work in a modern foreign language should acquire a reading knowledge of a second modern language. In addition, those majoring in a romance language or German are encouraged to have some knowledge of Latin; those in Russian would profit from studying Greek or Sanscrit.

Requirements for the B.S. in Education with a major in a modern foreign language are stated in the section of the College of Education. For the B.S. degree, the requirements for the major are: 209, 210, 331, 332, 333, 341 or 342, 437, 439 or 441, and 9 additional hours of literature at the 400 level; not included in the major but required for the B.S. are Modern Lang. 410 and Modern Lang. 445. Students taking the A.B. degree and planning to teach include the major courses outlined above for the B.S., 445 and additional hours in literature.

At the end of the junior year or beginning of the senior year all majors are expected to take a comprehensive exam and a proficiency test in understanding, speaking, and reading the foreign language.

All literature and basic courses are taught in the target language.

Language laboratory facilities include 150 student booths with individual tape recorders. Classrooms have speakers connected to a high-fidelity central console which can provide recorded material for various classes.

The department has honors sections in various classes and has a chapter of the national honor society, Phi Sigma Iota. Foreign study programs are held in Mexico, Spain, and France.

FOREIGN LITERATURES IN TRANSLATION

The lectures and readings for these courses are in English but students will be encouraged to do their reading, in so far as possible, in the original text. These courses are offered in the spirit of the Great Books courses and may be counted as part of the requirements for the humanities of the College of Arts and Sciences. These courses are not to be counted for a major in a foreign language.

335. Italian Literature in Translation (4)

Prereq: 3 hrs. of a literature or foreign language 103. (Winter quarter, 1967-68)

336. Spanish Literature in Translation (4)

Prereq: 3 hrs. of a literature or foreign language 103. (Spring quarter, 1967-68)

337. French Literature in Translation (4)

Prereq: 3 hrs. of a literature or foreign language 103. (Fall quarter, 1968-69)

338. German Literature in Translation (4)
 Prereq: 3 hrs. of a literature or foreign language 103. (Winter quarter, 1968-69)

339. Russian Literature in Translation (4)
 Prereq: 3 hrs. of a literature or foreign language 103. (Spring quarter, 1968-69)

MODERN LANGUAGES

310. The Language Laboratory (3)

Theory and practice in use of the language laboratory, as correlated with the foreign language classroom; will instruct students in selection, preparation, and use of instructional materials and tests and in successful operation of laboratory equipment. Two lectures and two hours of laboratory practice per week. Prereq: foreign language 103 or courses in linguistics.

445. Teaching of Modern Foreign Languages (3)

Study, demonstration, and use of methods and materials for effective modern foreign language instruction: applied linguistics; specific linguistic problems of American students learning French, Spanish, German, Russian, and Italian; filmed specialist demonstrations and videotaped and live student demonstrations of successful audio-lingual teaching techniques; demonstration, analysis, and practice use of commercial and student-prepared teaching materials and equipment; observation and practice teaching in actual modern foreign language classes; practical work projects in programming for and use of the language laboratory; use of audio-visual equipment and materials; special problem areas (testing, teaching of the sound system, presentation of cultural material, teaching of literature). Class meets four hours a week. Required of majors who plan to teach. Prereq: 103 in a foreign language; after Sept. 1968, the prereq. will be 341 or 342, 437, 439 or 441. (Quarterly: one quarter to French majors, one quarter to Spanish and Italian majors, one quarter to German and Russian majors.)

FRENCH

1-2-3. Basic Spoken French (4-4-4)

Development of comprehension and speaking skills. Reading for comprehension. Controlled writing exercises. Four hours of classroom and two hours of language laboratory work each week. Completion after 2 yrs. h. s. French adds 12 hrs. to graduation requirement.

101-102-103. Intermediate Spoken French and Reading (4-4-4)

Continued development of comprehension, speaking, and reading skills. Partially-controlled writing exercises. Four hours of classroom and two hours of language laboratory each week. Successful completion of 103 fulfills foreign language requirements of the College of Arts and Sciences. Completion after 4 yrs. h. s. French adds 12 hrs. to graduation requirement. Prereq: 3 or 2-3 yrs. h. s. French.

196. Advanced Spoken French and Reading (3)

Advanced-level development of comprehension, speaking, and reading skills. Controlled and free written composition. Laboratory required. Students entering with 4 yrs. h. s. French must either pass a proficiency test or begin their work at 196 unless their preparation places them at a higher or lower level. Prereq: 4 yrs. h. s. French. (Fall quarter and on demand)

197. Advanced Spoken French and Reading (3)

Continued advanced-level development of comprehension, speaking, and reading skills. Laboratory required. Reading from modern French literature. Conducted in French. Majors in 102 or 103 are encouraged to enroll concurrently in 197. For those students who begin with 196, completion of 197 fulfills the College of Arts and Sciences' foreign language requirement. Prereq: 196 or 101. (Winter and Spring quarters)

209-210. Intensive Writing (4-4)

Practice in effective use of the written language; review of grammar. Required of majors. Prereq: 103 or, by perm. 4 yrs. h. s. French.

331, 332, 333. Survey of French Literature (3, 3, 3)

Select literary masterpieces from Middle Ages to the twentieth century. All texts are in modern French. Practice in *explication de textes*. Tapes of numerous texts are available in laboratory. Required of majors. Prereq: 103 or, by perm., 4 yrs. h. s. French.

341. French Conversation (3)

Conversations on assigned topics; group discussions based upon correlated readings. Four class meetings per week and work in laboratory. Either 341 or 342 required of majors. Prereq: 3 hrs. beyond 103. (Fall and Winter quarters)

342. Accelerated French Conversation (3)

Emphasis upon fluency of speech and vocabulary building. Spontaneous discussions. Four class meetings per week and work in laboratory. Prereq: 341 or 210 or 333. (Winter and Spring quarters)

345, 346, 347. Undergraduate Study in France (Credit as recommended)

Espcially for Ohio University-Bowling Green University Junior Year in France. Prereq: 103 and a B average in all French taken and/or perm.

348. French Civilization and Culture (3)

Social, political, and cultural history of France from Middle Ages to the Revolution. Readings, discussions, class reports, and term papers. Prereq: 3 hrs. beyond 103. (Winter quarter)

349. French Civilization and Culture (3)

Continuation of 348 from 1799 to present. Problems of France in the modern world. Prereq: 3 hrs. beyond 103. (Spring quarter)

H 391. Honors Reading (1)

Additional reading and independent study to parallel course work in any 300 or 400-level course. Prereq: Honors status and perm.

415, 416. French Literature of the Renaissance (3, 3)

Main currents in sixteenth-century literature, with special emphasis on Marot, Rabelais, Du Bellay, Ronsard, and Montaigne. Prereq: 333 or equiv. (Fall and Winter quarters, 1968-69)

418, 419. French Classicism (3, 3)

Origin, theories, and development of French classicism: Malherbe, Pascal, Corneille, Racine, Molière, La Fontaine, Boileau, and other writers of the seventeenth century. Prereq: 333 or equiv. (Winter and Spring quarters, 1968-69)

423, 424. The Age of Enlightenment (3, 3)

Emphasis on philosophical, scientific, and esthetic ideas of the eighteenth century as expressed in works of Montesquieu, Voltaire, Diderot, Rousseau, and others. Prereq: 333 or equiv. (Fall and Winter quarters, 1967-68; 1968-69)

425, 426, 427. French Literature of the Nineteenth Century (3, 3, 3)

Romanticism, realism, naturalism, the Parnasse, and symbolism. Prereq: 333 or equiv. (1967-68)

429. French Literature of the Twentieth Century (3)

French literature from 1900 to World War II: Apollinaire, Péguy, Claudel, Proust,

Valéry, R. Martin de Gard, Breton, Giraudoux, Malraux, and others. Prereq: 333 or equiv. (Fall quarter, 1968-69)

431. French Literature of the Twentieth Century (3)

French literature after World War II: Sartre, Camus, Simone de Beauvoir, Gracq, Saint-John Perse, Beckett, Ionesco, Robbe-Grillet, and others. Prereq: 333 or equiv. (Spring quarter, 1968-69)

433. French Intellectual Movements in the Twentieth Century (3)

Maurras, Jaurès, Bergson, Alain, Gabriel Marcel, Sartre, Teilhard de Chardin, Simone Weil. Prereq: 333 or equiv. (Spring quarter, 1967-68)

435. Proseminar (1-3, max. 9)

Subject will vary. May be repeated when the subject changes. Prereq: 6 hrs. at the 400 level.

437. Applied Phonetics (3)

Systematic, analytical description of segmental and prosodic elements of sound system of French from both acoustic and articulatory points of view, particularly as contrasted with English. Laboratory required. Prereq: 3 hrs. beyond 103.

439. Structure of Modern French (3)

Making of an accurate linguistic description of entire structure of modern French. Prereq: 210. (Spring quarter, 1967-68)

441. Advanced Composition and Style (3)

Advanced study of grammar, syntax, and style. Prereq: 210. (Winter quarter, 1967-68)

H 491. Honors Research (1)

Additional research to parallel course work of any 400-level course and to result in a written essay. Prereq: Honors status and perm.

GERMAN**1-2-3. Basic Spoken German (4-4-4)**

Stress on spoken German. Reading for comprehension. Writing exercises. Four hours of classroom and two hours of laboratory each week. Completion after 2 yrs. h. s. German adds 12 hrs. to graduate requirement.

101-102-103. Intermediate Spoken German and Reading (4-4-4)

Continued development of comprehension, speaking, and reading skills. Partially-controlled writing exercises. Four hours of classroom and two hours of laboratory each week. Successful completion of 103 fulfills foreign

language requirement of College of Arts and Sciences. Completion after 4 yrs. h. s. German adds 12 hrs. to graduation requirement. Prereq: 3 or 2-3 yrs. h. s. German.

105. Scientific German (4)

Texts from the sciences are read. Designed especially for science majors and will fulfill foreign language requirement of the College of Arts and Sciences in lieu of 103. Prereq: 102 or 4 yrs. h. s. German. (Spring quarter)

196. Advanced Spoken German and Reading (3)

Intensive review of reading, writing, and aural/oral skills. Laboratory required. Students with 4 yrs. h. s. German must either pass a proficiency test or begin their work at 196 unless their preparation places them at a higher or lower level. Prereq: 4 yrs. h. s. German. (Fall quarter)

197. Advanced Spoken German and Reading (3)

Intensive reading, writing, and aural/oral practice with introduction to study of literature. Conducted in German. Laboratory required. Majors in 102 or 103 are encouraged to enroll concurrently in 197. For those students who begin their work at 196, completion of 197 fulfills foreign language requirement of the College of Arts and Sciences. Prereq: 196 or 101. (Winter and Spring quarters)

209-210. Intensive Writing (4-4)

Analysis and review of grammar. Compositions in German. Required of majors. Prereq: 103 or, by perm., 4 yrs. h. s. German. (Fall and Winter quarters)

331, 332, 333. Introduction to German Literature (3, 3, 3)

Analysis of genres and literary movements from Old High German period to present. With illustrative reading selections. Prereq: 103 or 197.

341. German Conversation (3)

Emphasis upon practical vocabulary and improvement of pronunciation. Laboratory required. Either 341 or 342 required of majors. Prereq: 3 hrs. beyond 103 or equiv. (Winter quarter)

342. Accelerated German Conversation (3)

Emphasis upon fluency of speech and building vocabulary. Written and oral reports. Reading and discussing texts dealing with modern Germany. 4 class meetings per week. Laboratory required. Prereq: 341 or 210 or 331. (Spring quarter)

345, 346, 347. Undergraduate Study in Germany (Credit as recommended) Prereq: 103 and a B average in German and/or perm.

348, 349. German Culture and Civilization (3, 3)

Historical, intellectual and artistic movements of Germany, Austria and Switzerland from earliest times to present. Prereq: 3 hrs. beyond 103. (Winter and Spring quarters, 1968-69)

H 391. Honors Reading (1)

Additional reading or independent studies to parallel course work in any 300 or 400-level course. Prereq: Honors status and perm.

425, 426, 427. Nineteenth-Century German Drama (3, 3, 3)

Study of major nineteenth-century dramatists. Prereq: 331. (1967-68)

429, 430, 431. Twentieth-Century German Literature (3, 3, 3)

German literature since Naturalism with special emphasis on prose works of Mann, Hesse, and Kafka, and dramas of Hofmannsthal, Kaiser, and Brecht. Prereq: 331. (1967-68)

432, 433. German Lyric Poetry (3, 3)

Survey of development of German lyric poetry. Prereq: 331. (Winter and Spring quarters, 1968-69)

435. Proseminar (1-3, max. 9)

Intensive analysis of a major author, literary genre or literary theme. When the subject is changed, the student may re-enroll. Prereq: 6 hrs. at 400-level.

437. Applied Phonetics (3)

Systematic, analytical description of segmental and prosodic elements of sound system of German, from both acoustic and articulatory points of view, particularly as contrasted with English. Prereq: 3 hrs. beyond 103. (Winter quarter, 1967-68)

439. Structure of Modern German (3)

Study of accurate linguistic description of entire structure of modern German. Prereq: 210. (Fall quarter, 1968-69)

441. Advanced Composition and Style (3)

Advanced writing and stylistic analysis. Writing of German compositions on subjects of a literary nature. Prereq: 210. (Spring quarter, 1967-68)

443, 444, 445. Nineteenth-Century German Prose (3, 3, 3)

Study of German prose literature with particular emphasis on development of the *Novelle*. Prereq: 331. (1968-69)

447. Lessing (3)

Study of major dramas and critical writings of Lessing. Prereq: 331. (Fall quarter, 1967-68)

448. Schiller (3)

Study of major dramas and critical writings of Schiller. Prereq: 333. (Winter quarter, 1967-68)

449. Romanticism (3)

Study of origins, philosophical background and development of German Romanticism. Prereq: 331. (Spring quarter, 1967-68)

453, 454, 455. Goethe (3, 3, 3)

Study of major writings of Goethe in chronological sequence: 1749-1786; 1786-1814; 1814-1832. Prereq: 333. (1968-69)

475. The Baroque Era (3)

Studies in poetry, prose, and drama of 17th and early 18th centuries. Poetic theory from Opitz to Gottsched. Prereq: 333. (Fall quarter, 1968-69)

H 491. Honors Research (1)

Additional research to parallel course work in any 400-level course and to result in a written essay. Prereq: Honors status and perm.

ITALIAN

1-2-3. Basic Spoken Italian (4-4-4)

Development of comprehension and speaking skills. Reading for comprehension. Controlled writing exercises. Four hours of classroom and two hours of language laboratory work each week. Completion after 2 yrs. h. s. Italian adds 12 hrs. to graduation requirement.

101-102-103. Intermediate Spoken Italian and Reading (4-4-4)

Continued development of comprehension, speaking, and reading skills. Partially-controlled writing exercises. Four hours of classroom and two hours of language laboratory work each week. Successful completion of 103 fulfills foreign language requirement of the College of Arts and Sciences. Completion after 4 yrs. h. s. Italian adds 12 hrs. to graduation requirement. Prereq: 3, or 2-3 yrs. h. s. Italian.

209-210. Intensive Writing (4-4)

Review of grammar; compositions both oral and written. Prereq: 103 or 4 yrs. h. s. Italian. (Fall and Winter quarters, 1968-69)

331, 332, 333. Survey of Italian Literature (3, 3, 3)

Masterworks of Italian literature from its origin to the twentieth century. Selections from Dante, Petrarch, Boccaccio, Ariosto, Tasso, and other writers. Prereq: 103 or 4 yrs. h. s. Italian. (1967-68)

341. Italian Conversation (3)

Conversations on assigned topics. Group discussions based upon correlated readings. 4 class meetings per week. Laboratory required. Prereq: 103 or 4 yrs. h. s. Italian (Spring quarter, 1968-69)

345, 346, 347. Undergraduate Study in Italy (Credit as recommended)

Student may either arrange his program directly with an Italian university or go with an established junior-year program. Prereq: 103 and a B average in all Italian taken and/or perm.

PORTUGUESE

1-2-3. Basic Spoken Portuguese (4-4-4)

Development of comprehension and speaking skills. Reading for comprehension. Controlled writing exercises. Four hours of classroom and two hours of language laboratory work each week. Completion after 2 yrs. h. s. Portuguese adds 12 hrs. to graduate requirement.

RUSSIAN

1-2-3. Basic Spoken Russian (4-4-4)

Essentials of Russian grammar. Oral practice. Graded readings. Four hours of class and two hours of laboratory each week. Completion after 2 yrs. h. s. Russian adds 12 hrs. to graduation requirement.

101-102-103. Intermediate Spoken Russian and Reading (4-4-4)

Review of grammar. Oral practice. Intensive and extensive reading. Four hours of class and two hours of laboratory each week. Passing 103 fulfills foreign language requirement of the College of Arts and Sciences. Completion after 4 yrs. h. s. Russian adds 12 hrs. to graduation requirement. Prereq: 3, or 2-3 yrs. h. s. Russian.

205. Scientific Russian (3)

Essentials of technical and scientific reading from modern texts. Prereq: 103 or 4 yrs. h. s. Russian. (Fall quarter)

206. Introduction to the History of the Russian Language (3)

Survey of Russian phonology, morphology, and syntax from Common Slavic to present. East, West, and South Slavic languages. Prereq: 103 or 4 yrs. h.s. Russian. (Winter quarter)

209-210. Intensive Writing (4-4)

Development of writing skills by study of grammar, syntax, and idiom. Required of majors. Prereq: 103 or 4 yrs. h.s. Russian. (Winter and Spring quarters)

331, 332, 333. Introduction to Russian Literature (3, 3, 3)

Selections from early Russian literature to Soviet period. Emphasis upon nineteenth century. Required of majors. Prereq: 103 or 4 yrs. h.s. Russian or equiv.

341. Russian Conversation (3)

Emphasis upon practical vocabulary and improvement of pronunciation. Oral reports and discussions of prepared subjects dealing with present-day life. Four class meetings per week and laboratory required. Either 341 or 342 is required of majors. Prereq: 103 or 4 yrs. h.s. Russian or equiv. (Fall quarter)

342. Accelerated Russian Conversation (3)

Advanced training in oral expression. Practice in use of idiomatic expressions. Discussions of texts read. Four class meetings and laboratory required. Prereq: 341 or 210 or 333. (Winter quarter)

345, 346, 347. Undergraduate Study in the Soviet Union (Credit as recommended)

Student may arrange his program with an established college group. Prereq: 103 and a B average in all Russian courses taken and/or perm.

348. The Cultural History of Russia (3)

Cultural heritage of Russian people. Origin of Russian literature. Russian Chronicles. Three cycles of the *bylina*. Russian ballads. Russian folklore. Readings and lectures in Russian. Prereq: 3 hrs. beyond 103 or equiv. (Winter quarter, 1968-69)

349. The Cultural History of Russia (3)

Continuation of 348. Prereq: 3 hrs. beyond 103 or equiv. (Spring quarter, 1968-69)

H 391. Honors Reading (1)

Additional reading and independent study to parallel course work in any 300 or 400-level course. Prereq: Honors status and perm.

411, 412, 413. Nineteenth-Century Russian Poetry (3, 3, 3)

Pushkin and Lermontov. Prereq: 333 or equiv. (1968-69)

429, 430, 431. Russian Literature in the Soviet Era (3, 3, 3)

Literature and Revolution of 1917. 1920's. Literature of World War I, collectivization and NEP. Literature and the *Purges*. World War II and Simonov, Sholokhov *et al.* Lectures and readings in Russian. Prereq: 333 or equiv. (1968-69)

435. Proseminar (1-3, max. 9)

Subject will vary. May be repeated when the subject is changed. Prereq: 6 hrs. at the 400-level.

437. Applied Phonetics (3)

Systematic, analytical description of segmental and prosodic elements of sound system of Russian, from both acoustic and articulatory points of view, particularly as contrasted with English. Prereq: 3 hrs. beyond 103 or equiv. (Spring quarter, 1967-68)

439. Structure of Modern Russian (3)

Accurate linguistic description of entire structure of Russian. Prereq: 210 or equiv. (Fall quarter, 1968-69)

441. Advanced Composition and Style (3)

Advanced writing and stylistic analysis. Prereq: 210 or equiv. (Fall quarter, 1969-70)

443, 444, 445. Nineteenth-Century Novel (3, 3, 3)

Biographies; novels of Gogol, Turgenev, and Tolstoy. Prereq: 333 or equiv. (1967-68)

H 491. Honors Research (1)

Additional research to parallel course work in any 400-level course and to result in a written essay. Prereq: Honors status and perm.

SPANISH

1-2-3. Basic Spoken Spanish (4-4-4)

Basic skills method. Oral stress. Four hours of classroom and two hours of laboratory each week. Completion after 2 yrs. h.s. Spanish adds 12 hrs. to graduation requirement.

101-102-103. Intermediate Spoken Spanish and Reading (4-4-4)

Continued development of comprehension, speaking, and reading skills. Partially-controlled writing exercises. Four hours of classroom and two hours of language laboratory

each week. Completion of 103 fulfills foreign language requirement of the College of Arts and Sciences. Completion after 4 yrs. h. s. Spanish adds 12 hrs. to graduation requirement. Prereq: 3, or 2-3 yrs. h. s. Spanish.

196. Advanced Spoken Spanish and Reading (3)

Advanced-level development of comprehension, speaking, and reading skills. Controlled and free written composition. Laboratory required. Students with 4 yrs. h. s. Spanish must either pass a proficiency test or begin their work at 196 unless their preparation places them on a higher or lower level. Prereq: 4 yrs. h. s. Spanish. (Fall quarter and on demand)

197. Advanced Spoken Spanish and Reading (3)

Continued advanced-level development of comprehension, speaking, and reading skills. Laboratory required. Readings from modern Spanish literature. Conducted in Spanish. Majors in 102 or 103 are encouraged to enroll concurrently in 197. For students who begin their work in 196, completion of 197 or 198 fulfills the foreign language requirement of the College of Arts and Sciences. Prereq: 196 or 101. (Winter quarter and on demand)

198. Advanced Spoken Spanish and Reading (3)

Continued advanced-level development of comprehension, speaking, and reading skills. Laboratory required. Readings from contemporary Latin American drama and short stories. Conducted in Spanish. Majors in 102 or 103 are encouraged to enroll concurrently in 198. For students who begin at 196, completion of 198 or 197 fulfills the foreign language requirement of the College of Arts and Sciences. Prereq: 196 or 101. (Spring quarter and on demand)

209-210. Intensive Writing (4-4)

Practice in effective use of written language. Review of grammar. Required of majors. Prereq: 103 or, by perm., 4 yrs. h. s. Spanish.

331, 332, 333. Survey of Spanish Literature (3, 3, 3)

Readings in Spanish literature from earliest times, through the Golden Age, and to the twentieth century. All texts in modern Spanish. Required of majors. Prereq: 103 or, by perm., 4 yrs. h. s. Spanish.

341. Spanish Conversation (3)

Development of skills in speaking and aural comprehension. Emphasis upon correct pronunciation. Group discussions based upon cor-

related reading. Four class meetings per week. Laboratory required. Either 341 or 342 is required of majors. Prereq: 3 hrs. beyond 103 or equiv. (Fall and Winter quarters)

342. Accelerated Spanish Conversation (3)

Development of fluency in speaking Spanish. Spontaneous discussions. Four class meetings each week. Laboratory required. Prereq: 341 or 210 or 333. (Winter and Spring quarters)

345, 346, 347. Undergraduate Study in Spain or Latin America (Credit as recommended)

Especially for Ohio University-Bowling Green University Junior Year in Spain and Summer in Mexico. Prereq: 103 or B average in Spanish and/or perm.

348. Spanish Civilization and Culture (3)

Historical, social, political, and cultural readings about Spain. Taught in Spanish. Prereq: 3 hrs. beyond 103 or equiv. (Spring quarter, 1968-69)

349. Spanish-American Civilization and Culture (3)

Lectures in Spanish on Indian civilizations, colonial period, nineteenth and twentieth centuries. Prereq: 3 hrs. beyond 103 or equiv. (Spring quarter, 1967-68)

H 391. Honors Reading (1)

Additional reading and independent study to parallel course work in any 300 or 400 level course. Prereq: Honors status and perm.

425. Nineteenth-Century Peninsular Drama (3)

Romantic movement in theater followed by transition and works of Echegaray. Prereq: 333 or equiv. (Fall quarter, 1968-69)

426. Nineteenth-Century Poetry and Essays (3)

Lyric poetry, *romances*, poetry of Espronceda, Bécquer, and Castro; writings of the *costumbristas*. Prereq: 333 or equiv. (Winter quarter, 1968-69)

427. Nineteenth-Century Peninsular Novel (3)

Regional novel from Fernán Caballero through Blasco Ibáñez and Pérez Galdós. Prereq: 333 or equiv. (Spring quarter, 1968-69)

429, 430. The Generation of '98 (3, 3)

Azorín, Baroja, Machado, Unamuno, Valle-Inclán, and others. Prereq: 333 or equiv. (Fall and Winter quarters, 1967-68)

432. Twentieth-Century Spanish Drama (3)
 From Benavente to the Civil War. Works of García Lorca included. Prereq: 333 or equiv. (Winter quarter, 1967-68)

433. Spanish Literature Since the Civil War (3)

Contemporary peninsular literature from Cela to present. Prereq: 333 or equiv. (Spring quarter, 1967-68)

435. Proseminar (1-3, max. 9)

Subject will vary. May be repeated when the subject is changed. Prereq: 6 hrs. at the 400 level.

437. Applied Phonetics (3)

Pronunciation drills and exercises in sound discrimination and transcription based on detailed articulatory description of standard Spanish of Spain and Latin America. Laboratory required. Prereq: 3 hrs. beyond 103 or equiv.

439. Structure of Modern Spanish (3)

Contrastive grammatical structure of Spanish and English. Prereq: 210 or equiv. (Spring quarter, 1967-68)

441. Advanced Composition and Style (3)

Advanced study of problems of grammar, syntax, and style. Prereq: 210. (Spring quarter, 1968-69)

443, 444, 445. Survey of Latin-American Literature (3, 3, 3)

Study of selected authors, genres, and literary movements from beginning of the colonial period and continuing to national literature and through Modernism. Prereq: 6 hrs. at the 400 level. (1967-68)

447. Novel of the Mexican Revolution (3)

Reading the novel of revolutionary theme written from 1910 to the present by Azuela, Rulfo, Yáñez, and others. Prereq: 6 hrs. at the 400 level. (Fall quarter, 1968-69)

448. Contemporary Latin-American Literature (3)

Post-modernist trends in literature. Prereq: 6 hrs. at the 400 level. (Winter quarter, 1968-69)

H 491. Honors Research (1)

Additional research to parallel course work in any 400 level course and to result in a written essay. Prereq: Honors status and perm.

MUSIC

APPLIED MUSIC

HISTORY AND LITERATURE

THEORY AND COMPOSITION

MUSIC EDUCATION

MUSIC THERAPY

INDEPENDENT STUDIES IN MUSIC

Professors: Ahrendt, Hall (*acting director*).

Associate Professors: Brophy, Conkling, Jennings, Minelli, Peterson, Wurtz.

Assistant Professors: Boxberger, Brockett, Geary, Hodkinson, Kaneshige, G. Katz, Lewis, Longstreet, Merritt, Rivers, Sanov, Smith, Thackrey, Wickstrom, Witzler.

Instructors: Howell, S. Katz, Potter, Thrailkill.

Lecturer: Henderson.

APPLIED MUSIC

Private instructional fee for all applied music (piano, voice, organ, strings, woodwind, brass, percussion), \$12 per quarter hour.

(NOTE: A description of the proficiency requirements for applied music may be secured from the School of Music.)

Voice (1-4)

Prereq: perm. S. Katz, Merritt, Peterson, Rivers

Piano (1-4)

Prereq: perm. Geary, Jennings, G. Katz, Longstreet

Harp (1-4)

Prereq: perm. Jennings

Organ (1-4)

Prereq: perm. Wickstrom

Stringed Instruments: Violin, Viola, Violoncello, Bass (1-4)

Prereq: perm. Conkling, Sanov

Woodwind Instruments: Flute, Oboe, Clarinet, Bassoon (1-4)

Prereq: perm. Hodkinson, Lewis, Witzler

Brass Instruments: Trumpet, Baritone, Horn, Trombone, Tuba (1-4)

Prereq: perm. Brophy, Smith, Minelli

Percussion Instruments (1-4)

Prereq: perm. Thrailkill

41-42-43. Class Piano (1-1-1)

Prereq: perm. Potter

44. Participation (Lower Division) (1, max. 6)

- a. Band *Minelli, Thraillkill*
- b. University Chorus *Wickstrom*
- c. Orchestra *Ahrendt*
- d. Men's Glee Club *Peterson*
- e. Women's Glee Club *Merritt*

May be repeated. Prereq: perm. (audition)

45. Ensemble (Lower Division) (1, max. 6)

- a. Brass Choir *Brophy*
- b. University Singers *Wurtz*
- c. Chamber Orchestra *Sanov*
- d. Opera *Rivers*

May be repeated. (At the discretion of the Director of the School of Music credits in Ensemble may be applied toward the participation requirement for graduation.)

47-48-49. Class Voice (1-1-1)

For students enrolling in beginning voice. Prereq: perm.

90. Performance Laboratory (0)

Required of all undergraduate music majors and students enrolled in 1-2-3 each quarter.

141-142-143. Class Piano (1-1-1)

Prereq: perm. *Potter*

346. Chamber Music (1, max. 9)

Participation in the playing of the standard chamber music literature. Prereq: perm. *Conkling*

352-353-354. Piano Pedagogy (2-2-2)

Presentation of various teaching methods, techniques and repertoire. Selection of teaching materials with general knowledge of various levels of ability and analysis of basic concepts of teaching in reference to purposes or objectives. *Jennings*

355. Conducting (3)

Basic beat patterns, technique of the baton and use of the left hand. Experience in conducting choral and instrumental ensembles in works suitable for school groups. Prereq: 203, 205, 206. (Fall quarter) *Sanov*

356. Choral Conducting (3)

Specialized conducting techniques for choral groups, including experience in conducting works suitable for high school and college groups. Prereq: 355. (Winter quarter) *Wurtz*

357. Instrumental Conducting (3)

Experience in conducting from full score, including study of band and orchestral works suitable for high school groups. Prereq: 355. (Winter quarter) *Sanov*

444. Participation (Upper Division) (1, max. 6)

- a. Band *Minelli, Thraillkill*
- b. University Chorus *Wickstrom*
- c. Orchestra *Ahrendt*
- d. Men's Glee Club *Peterson*
- e. Women's Glee Club *Merritt*

May be repeated. Prereq: perm. (audition)

445. Ensemble (Upper Division) (1, max. 6)

- a. Brass Choir *Brophy*
- b. University Singers *Wurtz*
- c. Chamber Orchestra *Sanov*
- d. Opera *Rivers*

May be repeated. (At the discretion of the Director of the School of Music credits in Ensemble 445 may be applied toward participation requirement for graduation.)

MUSIC HISTORY AND LITERATURE

20. Music Appreciation (2)

Form and meaning of music masterpieces. Not open to music majors or those who have received credit for Comparative Arts 221-222-223. *Thackrey*

221-222-223. History and Literature of Music (3-3-3)

History of music with survey of musical literature to 1450 (first quarter), 1450-1720 (second quarter), and 1720-1960 (third quarter). Prereq: 3. *Brockett*

421. The Literature of —— (3, max. 18)

- a. Vocal Music (Fall quarter, 1967)
- b. Piano Music (Winter quarter, 1968)
- c. Chamber Music (Spring quarter, 1968)
- d. Orchestral Music (Fall quarter, 1968)
- e. Organ Music (Winter quarter, 1969)
- f. Opera (Spring quarter, 1969)

May be repeated. *Brockett, Conkling, Jennings, Wickstrom, Wortman, Wurtz*

THEORY AND COMPOSITION

1-2-3. Theory (3-3-3)

Melodic, harmonic and rhythmic principles of music and its notation. 5 days a week. *Hall, Hodkinson, Lewis, S. Kaneshige*

201-202-203. Harmony (3-3-3)

Harmonic and contrapuntal practices of the 18th and 19th centuries, including analysis and composition in smaller forms. Prereq: 3 with a minimum grade of C. *Hall, Lewis*

204-205. Dictation and Sight Singing (3-3)

Should be taken concurrently with 201-202. *Lewis, S. Kaneshige*

206. Analysis and Form (3)

Harmonic and structural analysis of larger forms. Should be taken concurrently with 203. Prereq: 202, 205. (Spring quarter) *Lewis*

301-302-303. Advanced Harmony (3-3-3)

19th century chromatic harmony and 20th century harmonic practices. Prereq: 203, 206. *Hall, Lewis*

304. Instrumentation (3)

Technical characteristics of instruments of band and orchestra. Arranging for small ensembles. Prereq: 203. (Fall quarter) *Minelli*

305-306. Orchestration (3-3)

Scoring for small, medium and full orchestra. Prereq: 304. (Winter and Spring quarters) *Hodkinson*

310-311-312. Composition (2-2-2)

Original writing in smaller forms. Prereq: 203, 205, 206. *Ahrendt, Hodkinson*

401. Keyboard Harmony (3)

Concentration on functional aspects of piano playing: sight reading, accompanying, transposition, harmonization of melodies, improvisation, keyboard harmony. Prereq: 203. *Jennings*

407-408. Counterpoint I-II (2-2)

Based on practices and style of Palestrina. Prereq: 203. (Fall and Winter quarters) *Hall*

409. Counterpoint III (2)

Tonal counterpoint in two and three voices: invention, imitation and chorale prelude. Prereq: 203. (Spring quarter) *Hall*

410-411-412. Composition (2-2-2)

Original writing in larger forms. Prereq: 312. *Ahrendt, Hodkinson*

MUSIC EDUCATION**60. Music Fundamentals (3)**

For elementary education majors only. *Hall, Thackrey, Howell*

61. Music for the Classroom Teacher (3)

Methods of teaching elementary music. For elementary education majors only. Prereq: 60. *Henderson, Thackrey*

261. String Methods and Materials (2, max. 6)

Instruction in stringed instruments with emphasis on teaching techniques, methods, and materials. Prereq: 3, perm. *Conkling, Sanov*

263. Wind and Percussion Methods and Materials (2, max. 12)

Instruction in wind and percussion instruments with emphasis on teaching techniques, methods and materials. Prereq: 3, perm.

264-265. Secondary School Vocal Techniques and Materials (3-3)

Literature and rehearsal techniques for high school choral groups. Prereq: 355. (Winter and Spring quarters) *Wurtz*

266. Teaching of Music in the Elementary Grades (3)

Materials and methods for elementary music. For music majors only. Prereq: 203 (4 hours per week) (Fall quarter) *Wurtz*

463. Scoring for Bands (3)

Writing techniques for marching and concert bands. Prereq: 203, 304. (Spring quarter) *Minelli*

464. Marching Band Techniques (3)

Techniques for preparation of high school and college marching band performance. Prereq: 304. (Winter quarter) *Thraikill*

468. General Music in the Junior High School (3)

Materials and methods; listening program; changing voice. Prereq: senior rank or graduate status or perm. (Winter quarter) *Wurtz*

476. a,b. Workshops (1-1)

- a. Music Clinic-Workshop
- b. Elementary Music Workshop

May be repeated for credit, but credit may be applied to *degree electives* only once for each workshop. Prereq: senior rank or graduate status. Other clinics and workshops to be announced. (Summer only)

MUSIC THERAPY**281. Social and Recreational Instruments and Materials (3)**

Prereq: perm. Not open to freshmen. (Fall quarter) *Boxberger*

380. Clinical Experience I (1)

Selected field experience in approved hospitals. Prereq: perm. Not open to freshmen. *Boxberger*

381. Music Therapy I: Background of Music Therapy (3)

Historical review and survey of current trends of music therapy. Prereq: 206, perm. (Fall quarter) *Boxberger*

382. Music Therapy II: The Influence of Music on Behavior (3)

Theoretical and experimental bases for influence of music on behavior. Prereq: 381, perm. (Winter quarter) *Boxberger*

383. Music Therapy III: Problems and Procedures (3)

Prereq: 382, perm. (Spring quarter) *Boxberger*

480. Clinical Experience II (1)

Six months as full-time music therapy intern at approved hospital beginning after completion of senior year in music therapy. Credit, without grade, upon satisfactory completion of internship. Prereq: recommendation of advisor. *Boxberger*

481-482. Psychological Foundations of Music I-II (3-3)

Nature and extent of psychological investigations bearing upon composition, performance, and education in field of music. Prereq: 203, 206, 9 hrs. of psychology, perm. (Winter and Spring quarters) *Boxberger*

INDEPENDENT STUDIES IN MUSIC

498. Independent Projects (1-6)

Prereq: perm.

499. Independent Reading in Music (1-12)

Prereq: perm.

PHILOSOPHY

Distinguished Professor: Organ.

Professor: Murphree.

Associate Professors: Grean, Nosco, Wieman (chairman).

Assistant Professors: Butrick, Foxx, Ruchti, Saydah.

Instructors: Lisman, Oastler, Perotti, Rickert, Rogers, Rubin, Smith, Swardson.

Visiting Associate Professor: Machado.

The major requirement for the A.B. degree consists of a minimum of 36 hours, including 120, 210, 212 and at least three courses in the 300 to 499 group.

1. Fundamentals of Philosophy (3)

Basic problems and concepts in philosophy. Not open to juniors and seniors.

2. Principles of Reasoning (3)

Use of evidence in establishing reliable conclusions. Not open to juniors and seniors.

3. Moral Philosophies (3)

Types of ethical theory, bases of moral decision, and nature of values. Not open to juniors and seniors.

110. Introduction (4)

Analysis of typical philosophical problems arising in study of nature, society, and religion for purpose of developing a thoughtful and consistent intellectual perspective.

116. Philosophy of Science Survey (3)

Nontechnical survey of types, testing, and credibility of hypotheses; methods of experimental inquiry; measurement; laws, theories, and their role in explanation, concept formation. *Rubin*

120. Symbolic Logic I (3)

Introduction to techniques of modern symbolic logic. *Butrick*

130. Ethics (4)

Comparison of theories of right and good which enter into contemporary thought. *Saydah, Lisman*

140. Social Philosophy (3)

Basic types of social and political philosophies, classical and modern. *Murphree, Oastler*

150. Philosophy of Mind (3)

Mind-body problem; concept of self; man-machine relation. *Foxx*

160. Philosophy of Religion (3)

Traditional problems in nature of religion, existence and nature of God, problem of evil, immortality, and religious language. *Grean*

161. Old Testament (5)

Background and development of Old Testament; its philosophical, moral and religious significance. *Grean*

162. New Testament (4)

Background and development of New Testament; philosophical, moral and religious significance of the beliefs of Jesus, Paul, and the early Church. *Grean*

170. History of Religions: India (3)

Primitive religion, Hinduism, Jainism, Sikhism. *Nosco, Organ*

171. History of Religions: Southeast Asia, China and Japan (3)

Buddhism, Taoism, Confucianism, Shinto. *Nosco, Organ*

172. History of Religions: Near East (3)
 Zoroastrianism, Judaism, Christianity, Islam.
Nosco, Organ

250. Philosophy of Culture (3)
 Unity and interrelationship of art, religion, science, and common sense; man as a culture-creating being. *Lisman*

251. Philosophy of Language (3)
 Sign and symbol; sign situation (pragmatics, semantics, syntaxics) Meaning of "meaning", kinds of meanings; relation of meaning to verification and to truth. *Smith*

310. History of Western Philosophy: Ancient (5)
 Significant ideas of representative Greek and Roman philosophers. *Organ*

311. History of Western Philosophy: Medieval and Renaissance (3)
 Augustine to Bruno and Campanella. *Perotti*

312. History of Western Philosophy: Modern (5)

Descartes to Kant. *Wieman*

313. American Philosophy (3)

Begins with transcendentalism and includes pragmatism, naturalism, and idealism. *Murphree, Rubin*

314. Philosophical Analysis (3)

Moore, Russell, Wittgenstein. Prereq: 9 hrs. *Smith*

315. Contemporary Philosophy (3)

Issues from current journal literature. Prereq: 2 courses above 300. *Foxx*

316. Philosophy of Science (3)

Analysis of selected problems in logic and methodology of the sciences. Prereq: 116 and 120, or perm. *Ruchti*

320. Symbolic Logic II (3)

Informal and formal deductive systems, logic of relations, class logic. Prereq: 120. *Butrick*

321. Logical Theory (3)

Metamathematics, set theory, proof theory, and decision problems. Prereq: 121 or 3 hrs. of mathematics beyond 163B. *Ruchti*

330. Contemporary Ethical Theory (3)

Significant current literature in selected topics of moral philosophy. Prereq: 9 hrs. incl. 3 or 130. *Saydah*

331. Aesthetics (3)

Critical inquiry into modern theories of art, creative activity and response, logic of criticism, and their relation to selected arts. Prereq: 9 hrs. *Rickert*

332. Development of Aesthetic Theory (3)
 Evolution of philosophies of art from Plato to Croce, and their relation to selected arts and recent criticism. Prereq: 331. *Rickert*

340. Contemporary Social Philosophy (3)
 Prereq: 9 hrs., or 3 hrs. and 9 hrs. of social science. *Murphree*

350. Theory of Knowledge (3)

Critical examination of various views of what knowledge is and how it is attained. Prereq: 9 hrs. *Oastler*

351. Metaphysics (3)

Basic alternative conceptions of the world, and such topics as nature of substance, causality, self, freedom, space and time. Prereq: 9 hrs. *Perotti*

360. Contemporary Religious Thought

Representative thinkers such as Tillich, Buber, and others. Prereq: 9 hrs. *Grean*

370. Indian Philosophy (3)

Classical Hinduism. Prereq: 9 hrs. incl. 170. *Nosco, Organ*

371. Buddhistic Philosophy (3)

Philosophies associated with Buddhism, chief religion of southeast Asia. Prereq: 9 hrs., incl. 171. *Nosco, Organ*

418. Plato (3)

Prereq: 9 hrs. *Wieman*

419. Aristotle (3)

Prereq: 9 hrs. *Organ*

428. Continental Rationalism (3)

Descartes, Spinoza, Leibniz. Prereq: 9 hrs. *Wieman*

429. British Empiricism (3)

Locke, Berkeley, Hume. Prereq: 9 hrs. *Lisman*

438. Kant (3)

Prereq: 9 hrs., incl. 212. *Rogers*

439. Nineteenth Century European Philosophy (3)

Subjects selected from French, German, and British philosophers of the nineteenth century. Prereq: 9 hrs. *Rogers*

448. Pragmatism (3)

Peirce, James, Dewey. Prereq: 9 hrs. Rubin

458. Existentialism (3)

Development of existentialism from Kant through Schopenhauer to Camus. Prereq: 9 hrs. Perotti

468. Phenomenology (3)

Method and philosophy of phenomenological movement from Husserl to Merleau-Ponty. Prereq: 9 hrs. Machado

491. Seminar in Philosophy (3, max. 15)

Selected problems. Prereq: 21 hrs.

PHOTOGRAPHY

1, 2, 3. Basic Photography (3, 3, 3)

Course duration: 3 quarters. See title. 1 lec., 4 lab.

201, 202, 203. Photographic Processes (3, 3, 3)

Course duration: 3 quarters. History of photographic processes, photographic optics, photochemistry, sensitometry, photographic printing processes, and mechanical reproduction methods. 3 lec. Prereq: 3.

205, 206, 207. Workshop in Photography (3, 3, 3)

Course duration: 3 quarters. Individual practice in basic problems of photographic design and technique. 6 lab. Prereq: 3.

221. Basic Photographic Technique I (3)

Course duration: 1 quarter. For art and architecture majors. 1 lec., 4 lab. (Fall and Spring quarters)

222. Basic Photographic Technique II (3)

Course duration: 1 quarter. For art and architecture majors. 4 lab. Prereq: 221. (Winter and Summer quarters)

233. Basic News Photography I (3)

Course duration: 1 quarter. Introduction to camera and visual image. Experience in basic techniques and practices adaptable to news reporting. (Not open to photography majors.) 1 lec., 4 lab. (Fall and Spring quarters)

234. Basic News Photography (2)

Course duration: 1 quarter. (Not open to photography majors.) 4 lab. Prereq: 233. (Winter and Summer quarters)

301, 302, 303. Photographic Processes (3, 3, 3)

Course duration: 3 quarters. Description same as for 201, 202, 203. Not open to those who have had 201, 202, 203. 3 lec. Prereq: perm., junior rank.

305, 306, 307. Workshop in Photography (3, 3, 3)

Course duration: 3 quarters. Description same as for 205, 206, 207. Not open to those who have had 205, 206, 207. 6 lab. Prereq: perm., junior rank.

351, 352, 353. Newspaper and Magazine Photography (3, 3, 3)

Course duration: 3 quarters. Photographic techniques for newspaper picture reporting, including engraving problems, ethics, libel, and the law; introduction to the series and adaptions of the picture story. 1 lec., 4 lab. Prereq: 203, 207 or perm.

361, 362, 363. Motion Picture Production (5, 5, 5)

Course duration: 3 quarters. Motion picture structural theories in practice, elementary scripting approaches, camera technology, uses of sound, editing techniques, production practices, laboratory methods. Intensive exercise as an individual film maker in the production of several short motion pictures. 2 lec., 8 lab. Prereq: 203, 207 or perm.

454, 455, 456. Advanced Picture Story (3, 3, 3)

Course duration: 3 quarters. Advanced studies in preparation and uses of sequential images. 1 lec., 4 lab. Prereq: 353 or perm.

464, 465. Film Structure: Writing and Editing (3, 3)

Course duration: 2 quarters. Script writing for dramatic, documentary, and implemental films. Structural problems of non-scripted films. Editing organization of picture and sound materials. 1 lec., 4 lab. Prereq: 363 or equiv.

477, 478, 479. Portraiture (3, 3, 3)

Course duration: 3 quarters. Traditional and experimental approaches including fashion, dance, and certain situations dominated by people. 1 lec., 4 lab. Prereq: 203, 207 or perm.

480. Individual Problems in Photography (1-3, max. 12)

Individual study and practice in a specialized phase of photography under instructor's supervision. Prereq: 479, perm.

481. Individual Readings in Photography (1-3, max. 12)

Prereq: 36 hrs.

482, 483, 484. Commercial and Illustrative Photography (3, 3, 3)

Course duration: 3 quarters. Studio and location work in commercial, advertising, industrial, and architectural photography. Introduction to problems of studio operation and free-lance photography. 1 lec., 4 lab. Prereq: 479 or perm.

491, 492, 493. Color Photography (5, 5, 5)

Course duration: 3 quarters. Theory of color photography, practice with color transparency materials, direct separations, separation from transparencies, masking, and color printing. 1 lec., 8 lab. Prereq: 479, perm.

PHYSICAL EDUCATION AND INTERCOLLEGIATE ATHLETICS

*Professors: Mason, Miller, Rohr (Director)
Trepp.*

Associate Professors: Blosser, Hess, LaTourette, McComb, Phillips, Rhoads, Richey, Snyder, Widdoes, Wren.

Assistant Professors: Gillespie, Heffelfinger, Huntsman, Kappes, Schleicher, Wilkinson.

Instructors: Bandy, Brown, Dean, Ellwood, Gausz, Gilders, Hart, Houska, Jacoby, King, Nelson, Sanders, Simon, Smith, Stenlund, Switzer, Wagner, Whitaker.

SERVICE COURSES

The physical education program is designed for the diversified interests and abilities of men and women in the University. Students may elect freely from those courses which appeal to them but should avoid repetition of one sport or activity for the fulfillment of their physical education requirement.

The asterisk (*) indicates those courses which may be repeated once. For women this may be done by permission. No student may use more than two credit hours in the same sport or activity toward a degree requirement.

For a detailed statement of the university requirement in physical education refer to the Physical Education and Intercollegiate Athletics section of the catalog.

MEN-WOMEN

1. Archery (Target and Field) (1)

Shooting techniques of target and/or field archery.

2. Badminton (1)

Skills, strategy and rules.

3. Beginning Swimming (1)

For non-swimmers and beginners.

4. Intermediate Swimming* (1)

For students who have passed Beginner's Swimming Test or who can swim; instruction in basic strokes, plain and surface diving. Prereq: 3 or equiv.

5. Advanced Swimming (1)

Analysis and perfection of nine basic styles of swimming; diving, and other aquatic activities. Prereq: 4 or equiv.

6. Basic Movement (1)

Directed toward correct body mechanics; principles of movement and movement patterns, fitness, weight control and relaxation.

7. Beginning Modern Dance (1)

Basic principles of dance technique. Simple movement progressions, including diversified variations.

8. Intermediate Modern Dance (1)

Continuation of 7. Includes more complex warm-ups and floor progressions involving relationships of time, space, and dynamics. Prereq. 7 or equiv.

9. Advanced Modern Dance (1)

Continuation of Intermediate Modern Dance. Experimentation in movement form and composition. Prereq: 8 or equiv.

10. Adapted Activities* (1)

Students whose physical activities should be restricted are assigned to those activities adapted to their special needs. Prereq: medical perm.

11. Volleyball (1)

Fundamental skills, strategy, and rules.

12. Field Hockey (1)

Skill techniques, strategy, and rules.

13. Hiking (1)

To develop knowledge, understandings, and appreciation of out-of-doors. Field trips, outdoor group activities, and lectures.

14. Softball (1)

Instruction in basic skills and rules leading to development of team strategy.

15. Folk and National Dance (1)

American square and European dances.

- 16. Advanced Folk and National Dance (1)**
Continuation of 15.
- 17. Beginning Tennis (1)**
Skills and court strategy, rules and etiquette.
- 18. Intermediate Tennis* (1)**
Continuation of 17 with more advanced techniques and strategy. Prereq: experience or 17.
- 19. Gymnastics (1)**
Stunts, tumbling, and activities on selected apparatus.
- 20. Advanced Gymnastics* (1)**
Continuation of 19, emphasizing advanced skills and exercise routines.
- 21. Wrestling* (1)**
Prereq: perm.
- 22. Track and Field (1)**
- 23. Track and Cross Country* (1)**
Prereq: perm.
- 24. Soccer* (1)**
- 25. Football* (1)**
Prereq: perm.
- 26. Conditioning and Weight Training (1)**
Theory and practice of physical conditioning and weight training.
- 27. Baseball* (1)**
Prereq: perm.
- 28. Field Sports (1)**
Skills in such field sports as soccer, speedball, and field hockey.
- 29 Basketball* (1)**
Techniques, tactics, and strategy of basketball.
- 30. Social Dance (1)**
Designed to help students gain knowledge of and skill in fundamentals of ballroom dance.
- 31. Swimming* (1)**
Prereq: perm.
- 33. Handball (1)**
Prereq: perm.
- 35. Squash Racquets (1)**
Prereq: perm.
- 37. Fencing (1)**
Instruction in foil fencing.
- 38. Advanced Fencing (1)**
Continuation of 37.
- 39. Diving Fundamentals* (1)**
- 40. Tumbling, Stunts, and Floor Gymnastics (1)**
Individual, dual and group skills, floor exercises, basic movement.
- 41. Beginning Golf (1)**
Skills, rules, etiquette.
- 42. Intermediate Golf* (1)**
Continuation of 41. Prereq: 41.
- 45. Bowling (1)**
Instruction in skills, scoring and etiquette. Recommended Pin Fee \$12.00 i.e. 30 lines at 40¢.
- 47. Riding (1)**
Instruction and sixteen hours of horseback riding at McAfee and Merriman Farms. Fee \$24.00.
- 49. Ice Skating (1)**
- 50. Beginning Figure Skating (1)** Prereq: 49
- 51. Figure Skating (1)**
Instruction in U.S.F.S.A. compulsory figures; development of a free skating routine. Prereq: Mastery of all edges, two turns, two jumps, and two stops. Prereq: 50 and perm.
- 52. Ice Hockey* (1)**
Prereq: perm., varsity — freshman.
- 53. LaCrosse (1)**
Skills, strategy and rules.
- 61. Introduction to Physical Education (1)**
Lectures, discussion, and visual aids pertaining to scope and content of professional physical education. Proficiency tests in a selected group of physical skills.
- 114. Camp Craft (1)**
Activity course with experiences in fire building, outdoor cooking, and lashing temporary camp equipment. One overnight hike is required.
- 118. Life Saving and Water Safety (1)**
Principles and practices of life saving as prescribed by the American Red Cross. Prereq: 5 or equiv.
- 120. Water Safety for Instructors (1)**
For those who hold a valid American Red Cross Life Saving Certificate. Includes analysis of swimming, life saving techniques, and teaching practices. Prereq: 118.

137. Choreography* (1)

Basic principles of composition and presentation. Prereq: 9 or equiv.

165. Field Hockey and Soccer (2)

Skills, tactics, and strategy.

166. Basketball and Volleyball (2)

Skills, tactics, and strategy.

167. Softball and Archery (2)

Theory and practice of softball and archery; skills, tactics and strategy.

202. Personal and Community Health (4)

Hygenic practices and appreciation of means whereby health of the individual and group may be maintained.

221. Tennis Techniques (1)

Skills, strategy and tactics of tennis for professional students.

222. Tumbling and Gymnastics (1)

Tumbling, gymnastics and related activities for professional students; methods and materials for teaching.

223. Track and Field (1)

Participation in track and field activities suitable for girls and women.

227. First Aid (3)

Principles and practices of American Red Cross First Aid. Standard Certificate is granted if requirements are met.

228. Instructor's First Aid (3)

As prescribed and certified by the American Red Cross. Prereq: current First Aid Certificate.

229. Athletic Training (4)

Theory and practice of treatment and prevention of athletic injuries. Prereq: Zool. 101.

239. Athletic Officiating (3)

Rules, mechanics and procedures for officiating of football and basketball. State certification upon successful completion.

240. Sport Officiating I (1)

Theory and practice of officiating field hockey and soccer. (Fall quarter)

241. Sports Officiating II (1)

Theory and practice of officiating basketball and volleyball. (Winter quarter)

242. Sports Officiating III (1)

Theory and practice of officiating softball and track and field. (Spring quarter)

245. Camp Leadership (2)

Responsibilities of camp counselors. Includes program planning and practical leadership experiences.

250. Recreation (5)

Review of theory of play, recreation, and group work. Students organize parties and square dances, and plan programs for community and institutional groups. Handicraft included.

252. Kinesiology (3)

Analysis of human motion based on anatomical and mechanical principles. Prereq: Zool. 101.

253. Nature and Function of Play (3)

Historical background, theory, need, and administration of play, emphasizing play programs for schools, recreation centers, camps, and clubs.

265. Program Skills (2)

Teaching methods, materials, theory and practice in soccer, speedball, volleyball, and officiating.

266. Elementary School Physical Education (3)

Theory, teaching methods, techniques and materials in Elementary School Physical Education, with emphasis on appropriate rhythmical, individual and group activities. 2 hrs. 3 times per week.

267. Program Skills (2)

Teaching methods, techniques, materials, theory and practice in swimming, tennis, and officiating.

268. Football Skills (2)

Prereq. to Athletic Coaching. For those without football playing experience at Ohio University.

270. Teaching of Physical Education (2)

Laboratory and lecture experiences for teaching physical education in elementary school.

281. Administration of Intramural Sports (3)

Methods of organizing and administering a program of intramural sports for all age levels.

321. Program Skills (2)

Teaching methods and materials, theory and practice in archery, handball, bowling, and badminton.

322. Program Skills (2)

Teaching methods, techniques, materials, theory and practices in stunts and tumbling, apparatus, demonstrations and exhibitions, marching and conditioning activities.

323. Program Skills (2)

Teaching methods, techniques, materials, theory and practice in wrestling, golf, outdoor education and fencing.

333. Theory of Adapted Activities (3)

Organization of physical activity programs adapted to needs of physically handicapped individuals. Prereq: Zool. 101.

334. Program Techniques (1)

Experiences in organization, teaching and management of health education, physical education, and recreation classes. Students supervised by staff members.

365. Coaching of Basketball (3)

Theory and practice. Prereq: junior or senior rank. (Fall quarter)

366. Coaching of Baseball (3)

Theory and practice. Prereq: junior or senior rank. (Fall quarter)

367. Coaching of Football (3)

Theory and practice. Prereq: junior or senior rank. (Spring quarter)

368. Coaching of Track (3)

Theory and practice. Prereq: junior or senior rank. (Winter and Spring quarter)

369. Teaching of Health (5)

Instruction, principles and curricula used in presenting health information to pupils in elementary and secondary schools. Prereq: 102.

370. Theory and Practice of Sports Activities I (2)

Methods and materials for teaching of field hockey, soccer and volleyball. Prereq: experience in the sports.

371. Theory and Practice of Sports Activities II (2)

Methods and materials for teaching of basketball, tumbling and gymnastics. Prereq: experience in the sports.

372. Theory and Practice of Sports Activities III (2)

Methods and materials for teaching of track and field activities and softball. Prereq: experience in the sports.

374. Theory and Practice in Rhythmic Activities I (1)

Methods and materials for rhythmic programs in secondary schools and colleges. Prereq: 15.

375. Theory and Practice in Rhythmic Activities II (1)

Teaching of Modern Dance at elementary and secondary school levels. Prereq: 9 or equiv.

404. History and Principles of Physical Education (5)

Physical education systems and their influences from time of the Greeks; principles underlying physical education in modern program of education. Prereq: Zool 101, 145 or equiv.

406. Organization and Administration of Physical Education (5)

Methods of organizing and administering physical education, recreation, and athletics in schools and colleges. Prereq: junior or senior rank.

409. Tests and Measurements (5)

Methods of administering and evaluating tests in health, physical education, and athletics; practice in handling test data by elementary statistical methods.

449. Community Recreation (4)

History of play movement, programs and program building, administration of playgrounds, community centers, and recreational activities. Senior rank.

453. Clinical Observation and Practice in Physical Medicine and Rehabilitation (6)

Concentrated summer school field course at Veteran's Administration Hospital, Chillicothe, Ohio. Instruction by hospital corrective therapy staff. Open to senior majors or graduate students in physical education. Prereq: Zool. 101, 145 or equiv.

495. School Health Problems (5)

Principles, problems, organization, and administration of school health programs including school and community relationships. Senior rank.

PHYSICS

Distinguished Professor: Edwards.

Professors: Breitenberger, Lane, Munir, Randall (chairman), Sanford, Stumpf.

Associate Professors: Chen, Dilley, Finlay, Hunt, Koshel, Onley, Shipman, Unruh.

Assistant Professors: Adams, Barry, Bishop, Brient, Huwe, Rollins.

The minimum requirement for the A.B. degree with a major in physics is 36 quarter hours including a sequence of beginning courses through 115 or 119, and 9 hours in physics courses numbered above 300. This curriculum is recommended for secondary school science teachers.

The minimum requirement for the B.S. degree with a major in physics is 54 quarter hours. This must include a sequence of beginning courses through 115 or 119; 201-202; 219-220 and 18 hours of courses numbered above 300 of which at least 6 hours are laboratory courses. Extra departmental recommendations include 6 hours of mathematics courses numbered above 300 including vector analysis, and a year of chemistry.

Students in the B.S. curriculum are eligible for membership in the Ohio University Chapter of the American Institute of Physics and may become eligible for election to Sigma Pi Sigma.

Those preparing for careers in physics in industrial, atomic energy, space science or government laboratories or those who plan to enter graduate study in physics will find a recommended schedule listed under College of Arts and Sciences. Students planning to enter graduate study are urged to acquire a reading knowledge of two modern languages such as German, French, or Russian.

5. Introduction to Physics (4)

First course in physics for all students except prospective engineers and science majors who have had an introduction to calculus or equiv. of Math. 63A. Recommended for students in liberal arts, architecture, industrial technology, premedicine and predentistry. Lectures with demonstrations, recitation and lab. Includes mechanics of solids and liquids, waves and sound. 3 lec., 2 lab. (Fall and Winter quarters) *Edwards, Staff*

6. Introduction to Physics (4)

First course in physics for all students except prospective engineers and science majors who have had an introduction to calculus or equiv. of Math. 63A. Recommended for students in liberal arts, architecture, industrial technology, premedicine and predentistry. Lectures

with demonstrations, recitation and lab. Includes heat and thermodynamics, electricity and magnetism, light. 3 lec., 2 lab. Prereq: 5. (Winter and Spring quarters) *Edwards, Staff*

7. Introduction to Physics (4)

First course in physics for all students except prospective engineers and science majors who have had an introduction to calculus or equiv. of Math. 63A. Recommended for students in liberal arts, architecture, industrial technology, premedicine and predentistry. Lectures with demonstrations, recitation and lab. Includes relativity, quanta, atomic and nuclear physics. 3 lec., 2 lab. Prereq: 6. (Spring and Fall quarters) *Edwards, Staff*

113. General Physics (5)

For students of engineering and for students in chemistry, mathematics, physics and other fields who meet mathematics prerequisites. Classical and modern mechanics. Lectures with demonstrations, recitations, and lab. 3 lec., 1 recit., 2 lab. Not recommended for those who have credit for 5. Prereq: Math. 63A. *Randall, Staff*

114. General Physics (5)

For students of engineering and for students in chemistry, mathematics, physics and other fields who meet mathematics prerequisites. Classical and modern physics of wave motion, fluids, sound and heat. Lectures with demonstrations, recitation, and lab. 3 lec., 1 recit., 2 lab. Not recommended for those who have credit for 6. Prereq: 113 and Math. 63B. (Winter, Spring and Summer quarters) *Randall, Staff*

115. General Physics (5)

For students of engineering and for students in chemistry, mathematics, physics and other fields who meet mathematics prerequisites. Classical and modern physics of electricity, magnetism and light. Lectures with demonstrations, recitation, and lab. 3 lec., 1 recit., 2 lab. Not recommended for those who have credit for 7. Prereq: 114. (Fall, Spring and Summer quarters) *Randall, Staff*

219. Intermediate Physics (3)

Preparation for 200 courses and physics majors. Selected topics in introductory physics presented by calculus methods. Examples are: derivative form of velocity and acceleration, integral form of work and energy, fundamental conservation laws, impulse integral, moment of inertia, calculus description of simple harmonic motion, wave equation, Gauss's theorem, Ampere's law, L and C cir-

cuit elements, etc. 2 lec., 1 recit. Prereq: 5, 6, 7 and Math. 63A. (Winter quarter) *Onley, Randall*

220. Intermediate Laboratory (1)

For Physics majors. Fundamental experiments in quantum physics. (Spring quarter)

301. Mechanics (3)

Fundamentals of physical mechanics and wave motion, using vector analysis and differential equations, Newton's laws, equilibrium, harmonic and central force motion of particles, accelerated reference frames, rigid body motion, wave motion in linear systems, and selected topics in fluids and elasticity, 3 lec. Prereq: 115 or 219; Math. 240 or with 240. (Fall quarter) *Unruh*

302. Mechanics (3)

Fundamentals of physical mechanics and wave motion, using vector analysis and differential equations. Newton's laws, equilibrium, harmonic and central force motion of particles, accelerated reference frames, rigid body motion, wave motion in linear systems, and selected topics in fluids and elasticity, 3 lec. Prereq: 301. (Winter quarter) *Unruh*

303. Digital Computing Methods in Physics (2)

Practical computer programming (FORTRAN, etc.) with special emphasis on problems in physics; familiarization with practices in a modern computation center. Prereq: junior rank in physics. (Spring quarter)

316. Contemporary Physics for Engineers (3)

Serious student is introduced to qualitative ideas and quantitative results of atomic and nuclear physics. Two great successful theories of twentieth-century physics, quantum theory and relativity, are presented with use of elementary calculus. Their application to study of structure of atoms, nuclei, and solid state constitutes a major part of the course. 2 lec., 1 recit. Prereq: 115 and Math. 163A, B. (Fall and Winter quarters) *Lane, Stumpf*

319. Electricity and Magnetism (3)

Fundamentals of circuits, electric and magnetic fields. Topics on field sources, potentials, Gauss's law, polarization and dielectrics, magnetic induction, Hall effects, etc. Prereq: 115 or 219, Math. 240 or with 240. (Fall quarter) *Dilley*

320. Electricity and Magnetism (3)

Fundamentals of electric and magnetic fields. Topics on magnetic potentials, magnetic forces, Faraday law, magnetic materials, capacitance and inductance, energy of charge and current distributions, time-varying current. Prereq: 319. (Winter quarter) *Dilley*

321. Optics (3)

Fundamentals of geometrical and physical optics. Reflection, refraction, lenses, simple aberrations; interference phenomena, scalar diffraction theory; coherence; double refraction, and selected introductory topics in modern optical techniques. Prereq: 320. (Spring quarter) *Unruh*

325. Relativity (2)

Principles of special relativity and Lorentz transformations with applications to selected topics in mechanics, electricity and magnetism, and particle physics. Prereq: 302 or 320. (Spring quarter)

411. Thermodynamics (3)

First and second laws of thermodynamics, phase changes, and entropy. Discussion of temperature, thermodynamic variables, equations of state, heat engine. Prereq: 115 or 219, Math. 240. (Fall quarter) *Stumpf*

412. Kinetic Theory and Statistical Mechanics (3)

Kinetic theory, transport phenomena and introduction to classical and quantum statistics. Prereq: 411. (Winter quarter) *Stumpf*

420. Acoustics (3)

Fundamentals of vibration and sound wave propagation. Prereq: 302 or 320, Math. 240. (Spring quarter)

421. Optics Laboratory (2)

Experiments in geometrical and physical optics including laser experiments. Prereq: 321. (Fall quarter)

422. Spectroscopy Laboratory (2)

Optical spectroscopy in atomic system; high resolution spectroscopy. Measurement of energy levels and quantum numbers of physical systems through their interactions with electromagnetic radiation and fields. Prereq: 12 hrs. over 300. (Winter quarter) *Unruh*

423. Spectroscopy Laboratory (2)

Radio frequency and optical spectroscopy in solids and other condensed systems. Measurement of energy levels and quantum numbers of physical systems through their interactions with electromagnetic radiation and fields. Prereq: 12 hrs. over 200. (Spring quarter)

429. Basic Electrical Measurements Laboratory (3)

Electrical and electronic measurements and techniques including some basic circuit analysis and amplification techniques. (Applications to: measurements of electronic circuits, electric and magnetic fields, temperature, etc.) Prereq: 115 or 219. (Fall quarter) *Brient*

430. Radio Frequency Measurements Laboratory (2)

Basic semi-conductor circuit analysis. Amplification and transmission techniques. (Application to: Microwave circuits, noise measurements and averaging techniques, magnetic resonance, etc.) Prereq: 115 or 219 and 429 or perm. (Winter quarter) *Brient*

431. Pulse Electronics Laboratory (2)

Basic electronic pulse shaping, amplification, logic, and timing. (Applications to: particle and photon radiation measurements, logic, data acquisition, etc.) Prereq: 115 or 219 and 429 or perm. (Spring quarter) *Brient*

433. Atomic and Nuclear Laboratory (2)

X-ray diffraction, refraction, polarization and absorption, Moseley's law, Planck's constant, crystal analysis and other experiments. Prereq: 115 or 219. (Fall quarter) *Edwards*

434. Atomic and Nuclear Laboratory (2)

Particle and radiation detectors, analysis of x-ray and gamma-ray spectra with scintillation and solid state devices, Compton scattering, range of alpha particles and other experiments. Prereq: 115 or 219. (Winter quarter) *Edwards*

435. Atomic and Nuclear Laboratory (2)

Radioactivity, beta-ray spectroscopy, Rutherford scattering, lifetime of mu meson, velocity of gamma rays and other experiments. Prereq: 115 or 219. (Spring quarter) *Edwards*

445. Neutron Laboratory (2)

Selected experiments on neutron interaction with nuclei and with bulk matter. Prereq: 18 hrs. over 300. (Fall quarter)

446. Neutron Laboratory (2)

Selected experiments on neutron interaction with nuclei and with bulk matter. Prereq: 18 hrs. over 300. (Winter quarter)

449. Quantum Physics (3)

Quantum effects in atomic and molecular physics; basic ideas of quantum mechanics; solutions to Schrödinger equation for simple systems; application of quantum mechanics to interpretation of atomic and molecular spectra and structure. Prereq: 302 or 320 or perm. (Fall quarter) *Finlay*

450. Quantum Physics (3)

Continuation of 349. Quantum effects in atomic and molecular physics; basic ideas of quantum mechanics; solutions to Schrödinger equation for simple systems; application of

quantum mechanics to interpretation of atomic and molecular spectra and structure. Prereq: 349. (Winter quarter)

451. Theoretical Classical Physics (4)

Advanced topics in mechanics, electricity and magnetism; Lagrange and Hamiltonian methods; Maxwell's equations and electromagnetic radiation. Prereq: 302 and 320. (Fall quarter)

453. Nuclear and Particle Physics (4)

Descriptive treatment of nuclear phenomena. Elementary theory of nucleon-nucleon interaction. Systematics of nuclear structure (shell model and collective model). Properties and interactions of fundamental particles. Devices and techniques of nuclear and high energy physics. Prereq: 449. (Spring quarter)

460. Special Problems (1-3)

Supervised research problems of limited scope in experimental and theoretical physics. Prereq: 22 hrs.

461. Solid State Physics (4)

Fundamental properties of solid state of matter. Prereq: 450, 412. (Spring quarter)

PSYCHOLOGY

Professors: Ferguson, Games, Kahn, H. Kimmel, Klare, Paulsen, Russell, Snyder (chairman).

Associate Professors: Bradshaw, Bruning, Corwin, Koons, Pullen, L. Waters, Whalen.

Assistant Professors: Boice, Crawford, Drenstedt, Hanek, Land, Leckart, Maurath, Moates, Nickols, Porter, C. Waters.

Lecturers: Semans, Worden.

Research Associate: E. Kimmel.

The major requirement for the A.B. is 41 quarter hours, fulfilling the minimum credits listed in each of the following area groupings:

I. General Psychology (1 and 2) 6 credits required.

II. Theoretical Psychology; 12 credits required, including either 332 or 333-334, and the others to be chosen from 332, 333, 334, 336, 351, 315, 375 and 310.

III. Psychological Methods (121; 242 or 341; 126; 128) 15 credits required.

IV. Learning (303): 4 credits required.

V. Advanced Psychological Methods (301, 312, 314); 4 credits required.

Total hours countable toward the major in psychology may not exceed 54 quarter hours. Undergraduate majors, especially those

planning to pursue graduate work in psychology, are advised to prepare themselves in a diversity of fields. Especially recommended are modern languages, biological sciences, mathematics, and the social sciences.

1. General Psychology I (3)

Introductory course dealing primarily with learning, motivation, and sensory processes. (Fall and Spring quarters) *Bruning, Staff*

2. General Psychology II (3)

Second half of 1. Prereq: 1. (Winter and Summer quarters) *Bruning, Staff*

3. The Applications of Psychology (3)

Principles of mental health; clinical, social, industrial, and vocational uses of psychology, and those in advertising, guidance, and tests and measurements. Prereq: 1, 2. (Fall, Winter and Spring quarters)

9. Improvement of Reading and Study Methods (1)

Credit and points not counted toward a degree. *Corwin, Staff*

101. General Psychology I (3)

Intensive course not open to freshmen or to students having had 1. (Fall and Spring quarters)

102. General Psychology II (3)

Second half of 101. Prereq: 101. (Winter and Summer quarters)

109. Advanced Reading Improvement (1)

Practice with reading pacing devices and comprehension exercises designed to increase reading proficiency. No lec., 2 lab. Credit not counted toward a degree. Prereq: 2.5 gpa. *Corwin, Staff*

121. Elementary Statistics for the Behavioral Sciences (4)

Measures of central tendency, variability, correlation, and simplest tests of hypotheses. Prereq: Math. 3 with a minimum grade of C, or 5, 6, 60A, or 63A.

126. Experimental Psychology I (3)

Training in scientific methods and techniques of modern experimental psychology with individual reports of experiments. 2 lec., 4 lab. Prereq: 1 and 2 or 101 and 102, 121. (Fall, Winter and Spring quarters) *Leckart*

128. Experimental Psychology II (3)

Extension of 126. Student required to design and conduct a supervised research project. 2 lec., 4 lab. Prereq: 126. (Fall, Winter and Spring quarters) *Leckart*

131. Psychology of Adjustment (3)

Dynamics, development, and problems of human adjustment. Prereq: 6 hrs. (Fall, Winter and Spring quarters) *Russell, Staff*

162. Psychology of Advertising and Selling (3)

Applications of psychology of attention, human motives, learning and remembering, imagery, and individual differences to advertising and selling. Prereq: 1 and 2, or 101 and 102. (Winter and Summer quarters) *Ferguson*

173. Child and Adolescent Psychology (5)

Behavior from infancy through adolescence. Prereq: 1, 2.

175. Educational Psychology (4)

Psychological foundations of education, with major emphasis upon learning, transfer, motivation, and evaluation. Prereq: 1, 2.

242. Introduction to Psychological Tests (5)

Nature and purpose of psychological measurements. Introduction to tests of intelligence, achievement, personality, and interest. 2 lec., 2 lab. Prereq: 1 and 2, or 101 and 102, 121. (Fall and Spring quarters) *Crawford*

261. Industrial Psychology (4)

Application psychology to business and industry. Designed for business administration, engineering and technology, and psychology majors. Employee selection; human engineering; attitudes; psychological aspects of labor relations. Prereq: 1 and 2, or 101 and 102. (Fall, Spring and Summer quarters) *Ferguson, Waters, Crawford*

H-297. Psychology for the Honors College I (3)

Introduction to statistical and research methodology in psychology and study of learning, with laboratory problems. Open only to members of Honors College. (Fall quarter)

H-298. Psychology for the Honors College II (3)

Scientific theory and method, physiological and behavioral aspects of sensation, perception, and motivation, with laboratory problems. Open only to members of Honors College. Prereq: H-297. (Winter quarter)

H-299. Psychology for the Honors College III (3)

Development of personality and abilities, individual differences, and applications of psychology in business, education, and mental-health areas, with laboratory problems. Open only to members of Honors College. Prereq: H-298. (Spring quarter) *Russell*

301. Experimental Sensory Psychology (4)

Sensory processes, including vision, audition, gustation, olfaction, and somesthesia. 2 lec., 3 lab. Prereq: 126, 128. (Fall quarter) *Leckart*

303. Learning (4)

Methods and basic data in areas of conditioning, discrimination learning, problem solving, habit formation, and retention. 2 lec., 3 lab. Prereq: 126, 128. (Fall, Winter and Spring quarters) *Kimmel*

304. Human Learning (4)

Learning principles established by research with human subjects. Lectures, demonstrations, readings, and research. Prereq: 303 or equiv. (Fall and Spring quarters)

308. Psychology of Speech (3)

See Speech. *Weaver*

310. Motivation and Emotions (4)

Dynamics of animal and human behavior; drives, desires, incentives; emotion in relation to motives. Prereq: 9 hrs. (Winter quarter) *Kimmel, Staff*

312. Physiological Psychology (4)

Relationships between integrated behavior and bodily processes in the intact organism. Prereq: 126, 128, Zool. 3, 4. (Fall and Spring quarters)

314. Comparative Psychology (4)

Behavior of lower and higher organisms leading up to man. 2 lec., 3 lab. Prereq: 126, 128, or Zool. major. (Spring quarter)

315. Psychology of Individual Differences (4)

Individual and group differences including methodology, basic principles, and findings. Prereq: 9 hrs. (Fall quarter) *Bradshaw, Worden*

332. Abnormal Psychology (4)

Behavior disorders, their cause, and their effects on person, family, and society. Prereq: 1, 2. (Spring quarter) *Koons*

333. Psychology of Personality I (3)

Development and organization of personality, with evaluation of major theoretical viewpoints. Prereq: 9 hrs. (Fall quarter) *Russell, Staff*

334. Psychology of Personality II (3)

Continuation of 333 emphasizing research on personality structure, dynamics, and change. Prereq: 333. (Winter quarter) *Russell, Staff*

336. Social Psychology (4)

Behavior of man as influenced by group membership, with emphasis on individual's interaction as a basis of change of motives, attitudes, and personality. Prereq: 9 hrs. *Nickols*

341. Behavioral Measurement (5)

Theory of testing and measurement; basic criteria including objectivity, reliability, validity. Methods of test construction and validation, including questionnaire construction. Introduction to factor analysis. Prereq: 121, 521 or Educ. 521 or equiv. (Winter quarter) *Crawford*

351. Introduction to Clinical and Counseling Psychology (5)

Diagnostic and remedial procedures and resources; professional problems, duties, skills, and interprofessional relationships. Prereq: 332 or 333 or 336. (Fall quarter)

375. Psychology of Exceptional Children (4)

Growth and development of nontypical children. Prereq: 9 hrs. and 173 or 373. (Fall and Spring quarters) *Bradshaw, Worden*

390. Minor Problems in Psychology (1-3, max. 9)

Independent work on a special problem with any psychology professor. Prereq: 9 hrs.

H-391. Readings in Honors Work (1-3, max. 9)

Open only to students in Honors College.

H-397. Honors Work in Psychology (1-3, max. 9)

Prereq: junior rank in psychology and PHR of 3.0 in all courses.

H-399. Honors Work in Psychology (Thesis) (3-6, max. 12)

Prereq: senior rank in psychology and PHR of 3.0 in all courses.

PUBLIC ADDRESS

See Communication

QUANTITATIVE METHODS

Professor: Greenwood (chairman).

Assistant Professor: Holliday.

Instructor: Whipple.

Lecturer: Holden.

200. Quantitative Methods I (3)

Mathematical techniques as applied to business decisions. Prereq: Math. 60A, 60B, and 60C.

201. Quantitative Methods II (3)

Business decisions when dealing with certainty, risk, and uncertainty. Prereq: 200.

255. Business Statistics I (3)

Elementary Statistical methods used in business. Prereq: 200.

256. Business Statistics II (3)

Prereq: 255.

270. Electronic Data Processing (3)

Background information necessary for understanding effect of computers on business management and organization. Includes use of incident process and case studies. Prereq: 200 or perm.

355. Intermediate Business Statistics (4)

Techniques of small sample tests applied in marketing and opinion polling, statistical quality control, economics, and government statistics. Prereq: 256.

371. Analysis of Statistical Data (3)

Study of reports and forecasts of business firms, bureaus, and agencies. Application of statistical methods of specific problems. Prereq: 256.

403. Statistical Quality Control (3)

Application of sampling theory to industrial operations. Course in industrial statistics especially recommended for students interested in production control. Prereq: 256.

420. Operations Research (4)

Objectives of operations research in objective decision making, including consideration of techniques. Prereq: 200 and Mgt. 200 or perm.

441. Business Cycles (4)

Nature, causes, and theory of business cycle together with a survey of techniques of description and control. Prereq: 256 or with 256.

445. Forecasting (4)

Theory of prediction of social data and theory of business forecasting with special reference to economic conditions and business cycle. Prereq: 256 or with 256.

450. Recent Trends in Statistical Techniques (3)

Application to business and economics, including input-output tables, quantified economic models, linear programming, and decision making. Prereq: 256 or equiv.

481. Research in Quantitative Methods (2-12)

Prereq: 27 hrs. business administration including 256 or equiv. and perm.

491. Seminar in Quantitative Methods (3-6, max. 15)

Prereq: 27 hrs. business administration, including 256 or equiv. and perm. Additional courses: Math. 450A, 450B, 450C—Theory of Statistics.

RADIO-TELEVISION

See Communication.

RESERVE OFFICERS' TRAINING**AEROSPACE STUDIES
MILITARY SCIENCE****AEROSPACE STUDIES**

Professor of Aerospace Studies: Colonel Barrett.

Assistant Professors: Major Rowe, Major Reade, Captain Smith, Captain Westenbarger. Instructors and Administrative Assistants: TSgts. Bell, Gerde, SSgts. Burdock, Quinlisk, White.

The Department of Aerospace Studies offers two programs which lead to a commission as a second lieutenant in the United States Air Force. Both of these programs are designed for students who are interested in becoming a professional officer with a career in the U. S. Air Force. The four-year program is designed for the student who can begin Air Force ROTC with the autumn quarter and complete 12 quarters of Aerospace Studies by his date of graduation. The student taking the four-year program begins by scheduling Aerospace Studies 11.

The two-year program is designed for the student who was unable (or preferred not) to take Air Force ROTC during his first two years of college. The student who is interested in this program would not schedule Air Force ROTC during his first two years. However, he should consult with the Professor of Aerospace Studies during his freshman year (in any event, not later than autumn quarter sophomore year) for instructions regarding scheduling of Aerospace Studies 250, the first course in the two-year program.

Both the two-year and four-year programs are highly competitive and entry into the Professional Officer Course (last two years of Air Force ROTC) is based upon selection on a "best-qualified" basis. Taking the 11, 12 and 13 (Freshman) and 200 (Sophomore) series of Aerospace Studies (four-year program) or Aerospace Studies 250 (two-year program) does not guarantee entry into the Professional Officer Course (Aerospace Studies 300 and

400). It does make one eligible to compete for acceptance in the Professional Officer Course.

Upon being commissioned, the officer serves a minimum of four years active duty with the United States Air Force. For details or answers to specific questions contact the Professor of Aerospace Studies.

11. Aerospace Studies (2)

Introductory course exploring causes of present world conflicts as they affect security of the United States, to include an analysis of democracy and communism, and the United States' position in world affairs. Department of Defense as an instrument of national policy, organization, missions, and functions of the United States Air Force and its component combat and support forces. Traditions of the Air Force and military profession, role and attributes of the professional officer in American democracy. 1 cl., 1 Corps training hr.

12. Aerospace Studies (2)

A continuation of 11, 1 cl., 1 Corps Training hr. Prereq: 101 and perm. of Professor of Aerospace Studies. (Winter quarter)

13. Aerospace Studies (2)

A continuation of 12, 1 cl., 1 Corps Training hr. Prereq: 102 and perm. of Professor of Aerospace Studies. (Spring quarter)

201. Aerospace Studies (2)

Factors contributing to United States land and seapower. 1 cl., 1 Corps Training hr. Prereq: 13 and perm. of Professor of Aerospace Studies. (Fall quarter)

202. Aerospace Studies (2)

Factors contributing to military power of the free world (excluding the United States). 1 cl., 1 Corps Training hr. Prereq: 201 and perm. of Professor of Aerospace Studies. (Winter quarter)

203. Aerospace Studies (2)

Factors contributing to military power of the communist world. 1 cl., 1 Corps Training hr. Prereq: 202 and perm. of Professor of Aerospace Studies. (Spring quarter)

250. Aerospace Studies (3)

Six-week field training course taken at an Air Force Base. For students who did not take the Aerospace Studies 11, 12, 13 and 200 series. To schedule, student should see Professor of Aerospace Studies *not later than* fall quarter prior to summer of attendance. Offered summer only, and normally taken during summer prior to student's junior year in college; must

be completed prior to entering Aerospace Studies 301. Essentially covers same material as the general military education courses given on campus. Pay \$117 for six weeks, with room, board, books, uniforms and travel expenses furnished. Prereq: Must be an applicant for 2-year program, and perm. of Professor of Aerospace Studies. (Summer quarter)

PROFESSIONAL OFFICER COURSE (POC)

(300 and 400 level Courses)

GENERAL INFORMATION regarding the POC:

(1) Entry into Professional Officer Course by permission of the Professor of Aerospace Studies. Completion of lower level (11, 12, 13 or 200 series) courses does *not* guarantee acceptance into the POC. Selection of cadets who will be permitted to enroll in the POC will be on a "best-qualified" basis as determined by the Professor of Aerospace Studies. Screening of cadets will continue throughout the POC to insure that only highly qualified men receive commissions as Second Lieutenants in the United States Air Force.

(2) Cadets must join the U.S. Air Force Reserve prior to being admitted to this phase of training. Cadets who are members of the POC will be paid \$40.00 per month for a period not to exceed twenty (20) months.

(3) Cadets who qualify may take flight instruction at government expense. (36½ hours flying time which may lead to a private pilot certificate.)

(4) A financial assistance program is also available for students who qualify. This assistance is in the form of a grant and provides tuition, fees, books, and \$50.00 per month to the cadet during the period of the grant. Cadets who pursue the two-year program are *not* eligible for these grants.

301. Aerospace Studies (3)

Covers nature of war and development of air power in the United States. 3 cl., 1 Corps Training hr. Prereq: Perm. of Professor of Aerospace Studies. (Fall quarter)

302. Aerospace Studies (3)

Covers mission and organization of the Department of Defense; Air Force concepts, doctrine and employment; and introduction to astronautics and space operations. 3 cl., 1 Corps Training hr. Prereq: 301 and perm. of Professor of Aerospace Studies. (Winter quarter)

303. Aerospace Studies (3)

Covers present and future aeronautics and space operations, and future development of aerospace power. 3 cl., 1 Corps Training hr. Prereq: 302 and perm. of Professor of Aerospace Studies. (Spring quarter)

350. Aerospace Studies (2)

Four-week field training program conducted on an Air Force Base. Normally taken between junior and senior years. Consists primarily of orientation to Air Base facilities, life under military conditions, and some classroom work to make practical application of courses covered in the freshman, sophomore and junior years. Pay \$120.00 per month, with room, board, books, uniform and travel expenses furnished. Students who have taken the six-week Field Training Course (AS 250) do not take this course. Prereq: Must be in the four-year program; 301, 302 and 303, and perm. of Professor of Aerospace Studies. (Summer quarter) *Air Base Staff*

401. Aerospace Studies (3)

Military professionalism, military justice system, and leadership theory. 3 cl., 1 Corps Training hr. Prereq: 303 and perm. of Professor of Aerospace Studies. (Fall quarter)

402. Aerospace Studies (3)

Human relations, personnel policies, and problem solving. 3 cl., 1 Corps Training hr. Prereq: 401 and perm. of Professor of Aerospace Studies. (Winter quarter)

403. Aerospace Studies (3)

Principles and functions of management and junior officer as administrator and member of Command Staff team. 3 cl., 1 Corps Training hr. Prereq: 402 and perm. of Professor of Aerospace Studies. (Spring quarter)

MILITARY SCIENCE

Professor of Military Science: Colonel Bohn.
Assistant Professors of Military Science:
Lieutenant Colonel Godwin, Majors Fischer and Elliott, Captains Fish and Linck.

Instructors and Administrative Assistants:
SMaj. Komoroski, MSG Jordan, SFC's King and McReynolds, SSG Trainor.

Army ROTC offers two programs in Military Science which lead to a commission as a second lieutenant in the United States Army. Both programs are open to those interested in a commission in the Regular Army as well as those interested in a commission in the Army Reserve.

The four-year program consists of the Basic Course (M.Sc. 11, 12, 13, 201, 202, 203;

and Leadership Laboratories) taken during the freshman and sophomore years, and the Advanced Course (M.Sc. 301, 302, 303, 401, 402, 403; Leadership Laboratories, and one summer camp, M.Sc. 310) taken during the junior and senior years. Students who complete the Basic Course and are qualified are selected for the Advanced Course. No obligation is incurred by taking the Basic Course.

The two-year program is designed primarily for the transfer student and the student who could not schedule ROTC during the freshman and sophomore years. It is composed of a preparatory summer camp (M.Sc. 210) and the Advanced Course. Students interested in entering this program should contact the Military Science Department before February of the year in which they will attend the Basic Summer Camp.

All uniforms, ROTC textbooks, and other required equipment is furnished without cost to the student. Financial assistance is available in several forms. A four-year scholarship competition is open to high school seniors who will enroll in the four-year program. A two-year scholarship competition is open only to students in the Basic Course who will enter the Advanced Course. All Advanced Course students are paid \$40.00 per month. For summer camps, all travel expenses, board, living quarters, and uniforms are furnished and students are paid while attending camp.

11. Introduction to American Military History (1)

Art of warfare and principles of war as exemplified in American military history with emphasis on factors influencing development of modern army and current national defense concepts. Scheduled concurrently with Leadership Laboratory. M. Sc. 98; meets 1 hr. each week. (Fall quarter)

12. American Military History (2)

Continuation of 11. Meets 2 hrs. each week. Prereq: 11 or perm.

13. Modern Military Weapons (1)

Modern weapons systems and evolution of modern military firearms. Practical exercises in small arms marksmanship. Scheduled concurrently with Leadership Laboratory, M. Sc. 99; meets 1 hr. each week. Prereq: 12 or perm.

98, 298, 398, 498. Basic Leadership Laboratory (0)

Progressive exercise in techniques of leadership, command, discipline, and methods of military planning and instruction using ROTC cadet organization and military drill as training vehicles. Required of all Army ROTC students each year. Normally scheduled dur-

ing fall quarter in conjunction with M. Sc. 11, 201, 301, 401; students enrolled in 11 will enroll in 98, those enrolled in 201 will enroll in 298, those enrolled in 301 will enroll in 398, and those enrolled in 401 will enroll in 498. Offered during winter quarter for students who are unable to schedule Leadership Laboratory during fall quarter. Meets 2 consecutive hrs. each week. Prereq: enrollment in Military Science.

99, 299, 399, 499. Advanced Leadership Laboratory (0)

Continuation of M.Sc. 98, 298, 398, and 499. Required of all Army ROTC students each year; scheduled in conjunction with 13, 203, 303, and 403; students enrolled in 13 will enroll in 99, those enrolled in 203 will enroll in 299, those enrolled in 303 will enroll in 399, and those enrolled in 403 will enroll in 499; meets 2 consecutive hrs. each week. Prereq: enrollment in Military Science. (Spring quarter)

201. Introduction to Military Operations (2)

Field leadership principles and first instruction in map reading, use of topographic maps in land navigation, and elementary techniques of aerial photograph interpretation. Scheduled concurrently with Leadership Laboratory, M. Sc. 298; meets 2 hrs. each week. Prereq: 13 or perm. (Fall quarter)

202. Military Organization, and the Army in National Defense (2)

Necessity for a national defense establishment, national defense policy of the United States, and role of today's army in defense of the United States; also an introduction to concepts of military organization as applied in today's army. Meets 2 hrs. each week. Prereq: 201 or perm. (Winter quarter)

203. Basic Tactics, and Counterinsurgency (2)

Basic combat techniques at squad and individual level in offensive and defensive operations; causes and nature of insurgency and role of the U. S. Army in counterinsurgency operations. Scheduled concurrently with Leadership Laboratory, M.Sc. 299. Meets 2 hrs. each week. Prereq: 202 or perm. (Spring quarter)

210. Basic Army ROTC Summer Camp (4)

Six-week field training session conducted at an Army installation for students entering TWO YEAR PROGRAM. Provides necessary instruction to compensate for material covered in 11, 12, 13, 201, 202, and 203 on campus and must be completed before student enrolls in Advanced Military Science courses 301

through 403. Normally scheduled between sophomore and junior years. Students should apply for admission in January of year during which they wish to attend summer camp. Prereq: perm.

301. Military Teaching Principles, and Branches of the Army (3)

Study and practical exercise in principles, methods, and techniques of military instruction; also a survey of various branches and their roles in today's army. Scheduled concurrently with Leadership Laboratory, M. Sc. 398. Meets 3 hrs. each week. Prereq: 203 or 210 and perm. (Fall quarter)

302. Military Leadership, Command, and Control (3)

Study of psychological, physiological, and sociological factors affecting human behavior and proven techniques used in military leadership; also an introduction to communications systems and techniques used in the army today. Meets 3 hrs. each week. Prereq: 301 or perm. (Winter quarter)

303. Small Unit Tactics and Counterinsurgency (2)

Fundamentals of modern tactics and their application in employment of units below battalion level in combat operations; history and character of guerrilla warfare, its impact on modern world affairs, and measures to counteract guerrilla movements. Scheduled concurrently with Leadership Laboratory, M. Sc. 399. Meets 2 hrs. each week. Prereq: 302 or perm. (Spring quarter)

310. Advanced Army ROTC Summer Camp (4)

Six-week field training session conducted at an Army installation; normally scheduled between junior and senior years. Includes instruction and application of leadership and military techniques, and performance evaluation of cadets. Prereq: 303.

401. Operations and Logistics (3)

Military staff functions, military planning procedures, command relationships, and principles involved in movement and maintenance of military forces in field with emphasis on small units. Scheduled concurrently with Leadership Laboratory, M. Sc. 498. Meets 3 hrs. each week. Prereq: 303 or perm.

402. Army Administration and Military Law (3)

Army administrative and organizational procedures; concepts of military law and the administration of military justice. Meets 3 hrs. each week. Prereq: 401 or perm.

403. The United States in World Affairs and Service Orientation (2)

Role of the United States as leader in world community of nations; survey of responsibilities, ethics, and relationships of military officers as leaders. Scheduled concurrently with Leadership Laboratory, M. Sc. 499. Meets 2 hrs. each week. Prereq: 402 or perm.

RUSSIAN

See Modern Languages.

SOCIAL SCIENCE

See General Studies.

SOCIOLOGY AND ANTHROPOLOGY

Professor: Harlan.

Associate Professors: Elliott, Gursslin, Wood, Worstell.

Assistant Professors: Dennis (chairman), Kuhre, Vazquez, Webb.

Instructors: Burkhardt, Hegazy, Hlad, Shamblin.

The requirements for a major in sociology are: (1) Specific Courses: 1 or 101, 110, 251-252, and 200 or 300. (2) Area Requirements: a minimum of 4 quarter hours selected from each of the following: a. Social organization (courses whose second digits are 2), b. Social problems (courses whose second digits are 3), and c. Demography, anthropology, or social welfare (courses whose second digits are 4, 7, or 9). (3) Electives: 17 quarter hours in other department courses to a total of 50 hours, of which at least 12 hours must be at the 300-400 level.

In fulfilling the College of Arts and Sciences requirement in the natural sciences, majors should register for Biol. 1-2-3 or Zool. 3-4, Math. 3 or 5 or 6, and a course in statistics. (See the College of Arts and Sciences section of this Bulletin for additional information concerning preparation for work in criminology, juvenile delinquency, and social work).

SOCIOLOGY

1. Introduction to Sociology (5)

Nature of human society and factors affecting its development. Introduction to fundamental concepts of sociology: culture, personality, groups, institutions. Freshmen only.

101. Principles of Sociology (5)

Introductory course in sociology covering same topics as 1 in a more intensive manner. Not open to students who have taken 1.

110. Introduction to Social Psychology (4)

Patterning of conduct through social interaction; Functional analysis of individual-group relationships in various organizational contexts; introduction to current theory and research in the field. Prereq: 1 or 101.

120. American Society (4)

Sociological interpretation of American society. Analysis of institutional order: family, economy, government, education and stratification. Problem of stability of social and cultural systems. Prereq: 1 or 101.

130. Social Problems (4)

Survey of major contemporary problems in American society. Sociological analysis of causes and consequences of such matters as poverty, unemployment, mental health, urban redevelopment, crime and delinquency, family disorganization, population problems, and race relations. Prereq: 1 or 101.

150. Social Statistics (4)

Principles and procedures in treatment and presentation of quantitative social data. Methods of measuring central tendency, dispersion, and association. Scientific sampling, estimation, and tests of significance. Prereq: 1 or 101.

200. Development of Sociological Thought (4)

Major sociological concerns and concepts in relation to their social-historical setting. Special emphasis upon sociological thought in the 18th and 19th centuries. Prereq: 8 hrs.

210. Crowd and Mass Behavior (4)

Collective behavior resulting from social unrest; social contagion; formation and behavior of crowds; cults and sects; panic and disaster behavior; various types of mass behavior; impact upon social institutions. Prereq: 1 or 101.

220. Introduction to Family Sociology (4)

Cross-cultural analysis of family systems. Primary emphasis on American family: courtship, marriage, and family relationships. Prereq: 1 or 101.

221. Sociology of Education (4)

Study of school as a social institution in relation to the community and the development of the child; comparative systems of education; sociology of learning and teaching. Prereq: 8 hrs.

222. Sociology of Religion (4)

Analysis of interrelationship between religious institution and the social structure from a comparative perspective and with particular reference to American society. Prereq: 8 hrs.

231. Race Relations (4)

Survey and analysis of racial and ethnic problems in America; causes and consequences of prejudice and discrimination. Prereq: 8 hrs.

240. Population Problems (4)

Social and cultural determinants and consequences of changes in fertility, mortality and migration. Current and historical, national and international, population policies and programs. Prereq: 8 hrs.

251. Elementary Research Techniques (4)

Introduction to research techniques in sociology. Research design; collection, recording, and analysis of data. Prereq: 1 or 101.

252. Field Studies in Sociology (4)

Planning, execution, and write-up of an empirical study, utilizing skills developed in 251. Limited class meetings, conferences with instructor, research report. Prereq: 251.

300. Modern Sociological Theory (4)

Critical examination of major sociological conceptual frameworks in the 20th century. Prereq: 12 hrs.

311. Contemporary Social Movements (4)

Organized movements resulting in major social changes: revolutionary, nationalistic, reform; religious agitation, leadership, ideology, case studies of typical movements. Prereq: 8 hrs.

312. Public Opinion Processes (4)

Attitudes and opinions in relation to formation of public opinion; political socialization and participations; social status, reference groups, decision-making, and role of mass media. Structure and process in the behavior of publics. Prereq: 110 or 210.

313. Mass Communication (4)

Personal and social functions of content in newspapers, radio, television, and film. Types of audiences and communication effects. Organization and control of mass media, and problems in evaluation. Prereq: 210 or 312.

321. Sociology of Organization (4)

Organization and structure of social groups. Basic cultural patterns of economic, kinship, and other institutions. Integration and disintegration of social groups and institutions. Prereq: 8 hrs.

322. Urban Sociology (4)

Historical development and recent emergence of the city as a dominant feature of modern social life. Special emphasis upon demographic and ecological patterns and social organization of the urban region. Prereq: 8 hrs.

323. Industrial Sociology (4)

Analysis of interrelationship between industrial and social order. Special attention given to social organization and processes within the formal and informal structure of the industrial unit. Prereq: 8 hrs.

330. Criminology (4)

Theories and research in criminal behavior; review of crime statistics. Prereq: 8 hrs.

333. Sociology of Deviant Behavior (4)

Analysis of theory and research concerning major types of deviant behavior: criminality, suicide, drug addiction, and mental disorders. Prereq: 130.

352. Research Problems in Sociology (2, max. 6)

Individual research in specific problem areas in which student has demonstrated ability and interest. Prereq: 20 hrs. including 252 and written perm. prior to registration.

400. Proseminar in Sociology (4)

Critical examination of selected theoretical and research problems. Primarily for advanced students in sociology. Prereq: 20 hrs.

401. Readings in Sociology (1, max. 3)

Independent, directed readings designed to expand student's understanding in a selected area of interest. Prereq: 20 hrs.; perm.

414. Small Group Behavior (3)

Major theories and methods for study of the small group as a unit of social systems; communication patterns, role definition, leadership, cohesion, etc.; review of current literature. Prereq: 110 or 12 hrs. of psychology.

415. Comparative Study of Socialization I (3)

Infancy and Childhood. Intensive analysis of early socialization processes in relation to cultural differences and social class position; emphasis on social psychological research in various disciplines as basis for comparative descriptions. Prereq: 1 or 101; 110 or equiv.

416. Comparative Study of Socialization II (3)

Adolescence and Maturity. (Continuation of 415) Cross cultural and interclass comparisons of social-psychological development in successive life-stages; social role expectations and behavior; personal identity and status; feeling, motivation, and problem-solving. Prereq: 415 or equiv.

420. Social Stratification (4)

Study of social and economic classes, castes, and other social strata; their origin, change, and correlates in other spheres of society. Prereq: 8 hrs.

424. Political Sociology (4)

Social and cultural basis of influence, power, and authority. Emphasis upon informal aspects of political process in groups and institutions other than government. Prereq: 8 hrs.

426. Rural Sociology (4)

Rural population, community, and institutions in America and other societies. Historical developments and current trends. Rural life organizations and movements. Prereq: 8 hrs.

427. The American Family System (4)

Evolution of American family from the colonial to the present time. Analysis of structural and functional trends in light of theory and research. Prereq: 220 or equiv.

428. Comparative Study of Marriage and the Family (4)

Intra-cultural and cross-cultural differences and similarities in marriage patterns and family types; their social and cultural determinants and consequences, and their significance for family life. Prereq: 220 or equiv.

431. Juvenile Delinquency (4)

Theories and research in delinquency. Causes and consequences of delinquent behavior among juveniles. Prereq: 8 hrs.

432. Corrections (4)

Analysis of delinquency and crime correctional techniques and facilities, with emphasis on theoretical foundations of various correctional approaches. Field trip. Prereq: 330 or 431.

440. Population Theories (4)

Major theoretical frameworks in population analysis and how they account for changes in fertility, mortality, and migration and impact of these changes on human society. Prereq: 16 hrs.

ANTHROPOLOGY**70. Introduction to Anthropology (5)**

Introduction to study of human origins; distribution of races; prehistoric, and historic development of human societies; analysis of representative cultures of the Old and New Worlds. Freshmen only.

170. General Anthropology (5)

General anthropology covering same topics as 70 in a more intensive manner. Not open to students who have taken 70.

173. The Africans and Their Cultures (4)

Survey of territorial groupings in Africa by regions and climatic zones; demographic characteristics, racial composition, language families; prehistory and history of Africa. Emphasis on indigenous cultural institutions with particular focus on West Africa. Prereq: 70 or 170.

175. Peoples and Cultures of Southeast Asia: Mainland Regions (3)

Ethnographic survey of major cultural groups and traditions in Burma, Thailand, Cambodia, Laos, Vietnam, and South China. Population, economy, kinship and family, language, religion, etc. Influence of Indian, Chinese, and Western civilizations. Prereq: 70 or 170.

176. Peoples and Cultures of Southeast Asia: Island Regions (3)

Continuation of 175 with reference to Malaysia, Indonesia, and the Philippines, and with attention to Moslem influences. Students select one tribal or national group for special study. Prereq: 175.

270. Social Anthropology (4)

Analysis of basic social institutions in primitive societies. Special emphasis upon family and kinship, political order, economic systems, and supernaturalism. Prereq: 70 or 170.

273. Culture Areas of Sub-Saharan Africa (4)

Descriptive survey of six culture areas of Sub-Saharan Africa. Study of interdependence of social forms and ecology, and institutions as guides to total ways of life. Prereq: 173.

370. Folk Communities (4)

Comparative study of village communities; peasantry as an historical phenomenon; folk community as an embodiment of culture in various societies. Prereq: 70 or 170.

372. Cultural Contacts (4)

Impact of one culture upon another, agents of cultural contact, and subsequent cultural change. Prereq: 70 or 170.

375. Cultural Change in Southeast Asia (4)

Contemporary processes of change in traditional institutional and communal patterns in mainland and island regions and differential impact of change upon various groups, personalities, and social relationships. Prereq: 175 or 176, or 12 hrs. of anthropology.

471. Readings in Anthropology (1)

Supervised reading in various fields of anthropology: linguistics, physical anthropology,

social anthropology, and archeology. Prereq: 12 hrs. of anthropology.

473. Culture and Personality (4)

Personality development by virtue of individual's membership in enduring groups whose members follow socially standardized ways of acting, thinking, and feeling. Prereq: 8 hrs. of anthropology.

SOCIAL WELFARE

190. Social Security System (3)

Programs, policies, and problems related to prevention and alleviation of economic insecurity in the United States. Brief comparison with social security systems of other countries.

290. Social Welfare I (3)

Development of social welfare as a contemporary social institution and of emergence of social work as a profession. Prereq: Soc. 1 or 101 and Soc. 130.

291. Social Welfare II (3)

Development of specific social welfare services for alleviation and prevention of social dysfunction and evaluation of their effectiveness. Prereq: 290.

292. Social Welfare III (3)

Organization of social welfare services at federal, state and local levels and exploration of some major trends and policy issues. Brief examination of international social welfare programs. Prereq: 291.

390. Social Work (4)

Social work as one helping profession and three methods of social work practice: group work, case work, and community organization. Prereq: 292, perm. for graduate students.

490. Field Work (4)

Assignment to a welfare agency for observation and supervised work experience. Total of six hours a week at the agency, seminar meetings every two weeks, plus individual conferences with instructor are required. Prereq: 390; perm. before registration.

491. Field Work (4)

See course description, 490 above.

SPANISH

See Modern Languages.

SPEECH

See Communication.

SPEECH PATHOLOGY, AUDIOLOGY AND SPEECH SCIENCE

See Communication.

STATISTICS

See Quantitative Methods.

STUDIO ART

Distinguished Professor: Mutchler.

Professors: Leach (Director), Hostetler, Lin, Roberts, Work.

Associate Professors: Baldwin, Borchard, Eldridge, Kortlander, Leonard, Loomis, McCarthy, Vickers.

Assistant Professors: Cogbill, DesRosiers, Jonas, Kokis, Kroutel, Lampella, Pettigrew, Schwindler.

Instructors: Coon, Lasansky, O'Connor, Skinner, Vanderplas.

1, 2, 3. Drawing and Design (3, 3, 3)

Presentation of elements of design and formal pictorial order as a concern of two-dimensional picture plane.

21, 22, 23. Three-Dimensional Design (2, 2, 2)

Ordered, spatial structure, volumetric form through projects utilizing traditional materials of clay, plaster, stone, wood, and some modern media.

101. Drawing and Design (3)

Continuation of 3 required of sophomore art students. Prereq: 3.

105-106. Painting (3-3)

Introduction to Basic Problems and Techniques of Oil Painting. Prereq: 101 or with 101, 205.

115-116. Ceramics (3-3)

Introduction to clay and glazes, hand and wheel forming and decorative techniques. Prereq: 101 or with 101.

128-129. Figure Drawing (3-3)

Drawing from the model. Required of all art majors. Prereq: 101 or with 101.

131-132. Sculpture (3-3)

Wood and stone carving. Clay and plaster modeling. Assemblage. Prereq: 101 or with 101.

134-135. Sculpture (3-3)

Casting techniques in plaster, bronze, and plastics. Direct forming in wax, fiberglass and plastics. Prereq: 101 or with 101.

141-142. Lithography (3-3)

Lithographic Drawing and Printing. Prereq: 101 or with 101.

144-145. Intaglio (3-3)

Introduction to Basic Intaglio Print Techniques. Prereq: 101 or with 101.

147. Relief Printmaking (3)

Basic woodblock and relief printing techniques. Prereq: 101 or with 101.

148. Silk Screen Printmaking (3)

Basic Silk Screen Techniques. Prereq: 101 or with 101.

151-152. Jewelry and Enameling (3-3)

Introduction to basic techniques of enameling on metals and construct jewelry with sterling silver. Prereq: 2 and 21, 22, or 23.

160. Art in Elementary School (3)

Theory and practice of teaching art in elementary school. For elementary education majors. Prereq: 8 hrs. This is a new course which covers material formerly contained within Art 3 and 160. Art 3, Elementary Design for Teachers, 2 sem. hrs., and Art 160, Practical Design Workshop for Elementary Teachers, 3 sem. hrs., have been eliminated now that elementary education majors take the same basic art courses as art majors.

175-176. Weaving (3-3)

Beginning course with an introduction to a four harness loom, its parts, possibilities and limitations. Establishment of a vocabulary and basic principles of design, color, and texture. Prereq: 101 or with 101.

205, 206, 207. Painting (3, 3, 3)

Prereq: 106.

209. Watercolor (3, max. 9)

Problems and techniques of water-base media. Prereq: 105 or perm.

215, 216, 217. Ceramics (3, 3, 3)

Continuation of wheel throwing process, introduction of production processes. Chemistry of glazes. Prereq: 116.

228, 229. Figure Drawing (3, 3)

Prereq: 129.

231, 232. Carving (3, 3)

See title. Prereq: 132, 135.

234, 235. Construction (3, 3)

See title. Prereq: 135.

237, 238. Casting (3, 3)

See title. Prereq: 132 or 134.

241-242. Lithography (3-3)

Lithographic techniques including transfer, color and metal plate. Prereq: 142, 241.

244-245. Intaglio (3-3)

Continuation of intaglio print techniques; introduction of multi-color printing. Prereq: 145.

247. Relief Printmaking (3)

Advanced techniques in relief printmaking. Prereq: 147.

251. Jewelry (3)

Three-dimensional design course using molten silver to cast jewelry. Basic techniques of lost wax and sand mold casting. Prereq: 152.

252. Silversmithing (3)

Introduction to basic techniques of forging and raising to produce silver hollow ware. Prereq: 151.

260. Workshop in Art (3)

For art education majors. 4 lab., 1 hr. arranged. Prereq: junior rank.

275-276. Weaving (3-3)

Continuation of 176, at a more advanced level. Concentrated area work in methods of warping, rug making and a deeper understanding of loom and its versatility. Prereq: 176.

305, 306, 307. Painting (6, 6, 6)

Prereq: 207.

315, 316, 317. Ceramics (6, 6, 6)

Concentration of all methods of forming of clay. Construction of potter's wheel and kiln. Advanced glaze and clay testing techniques. Prereq: 217.

318-319. Glass (3-3)

Introduction to glass blowing. Prereq: perm.

321, 322. Drawing Workshop (3, 3)

Advanced drawing experiences. Prereq: junior or senior rank.

331, 332. Carving (6, 6)

Prereq: 232.

334-335. Construction (6, 6)

Prereq: 235.

337, 338. Casting (6, 6)

Prereq: 238.

341, 342. Lithography (6, 6)

Concentration on color printing, advanced work with metal plate. Prereq: 242.

344, 345. Intaglio (6, 6)

Advanced Intaglio Printmaking. Prereq: 245.

351, 352. Jewelry and Silversmithing (3, 3)

Continuation of 251 and 252. Prereq: 252.

360. Teaching of Art (3)

(Elementary and Junior High School): Theory and practice of teaching art. Required for art education majors. Readings, lectures, and opportunity for project teaching in area schools. Prereq: 260.

361. Teaching of Art in the Secondary School (3)

Study of current practices. Reading, lectures and opportunity for project teaching in Athens County and City Schools. Prereq: 360.

375-376. Weaving (3-3)

Continuation of program offered in 276 with a deeper investigation into various weaving techniques and looms. Introduces multiharness (6-8) and double beam weaving for dimensional weaving, double cloth, and supplementary ways fabrics. Investigation of yarn fibers and yarn construction. Prereq: 276.

408, 409. Figure Painting (3, 3)

Painting from model. Prereq: perm.

418, 419. Glass (3, 3)

Continuation of glass blowing and introduction to glass casting and production techniques. Prereq: perm.

421, 422 Drawing Workshop (3, 3)

Continuation of 322. Prereq: 322.

427, 428, 429. Illustration (3, 3, 3)

Prereq: perm.

480. Individual Problems: Studio (1-3)

Prereq: senior rank, perm.

481. Individual Reading (1-3)

Prereq: senior rank, perm.

THEATER*Professors: Walker (Acting Director), Lacy, Wagner.**Associate Professors: Conover, Lane, Weiner.**Assistant Professors: Birner, Gaffney, Hahne, McGraw, Schmunk, Winters.**Instructor: Abbott.**Visiting Professor: O'Shaughnessy.***1. Introduction to Theater (3)**Basic elements of drama and theater; analysis of the script as basis for production. 2 lec., 1 recit. *Walker***10A,B,C. Body Training (3) (1 per quarter)**Basic training for body control and movement. 4 lab. *Gaffney***11A,B,C. Voice Training (3) (1 per quarter)**Individual and group instruction in basic elements of voice and articulation. 2 recit. *Hahne, Lane***20. Oral Interpretation (3)**Techniques in oral interpretation and development of intellectual and emotional responsiveness to meaning of literature. 3 lec./recit. Prereq: Speech I; majors, 11A,B,C. *Conover, Staff***30A,B,C. Technical Production I (6) (2 per quarter)**Principles of technical production. A. Scenery, B. Lighting, C. Costume, 2 lec., 2 lab. *Abbott, Schmunk, Winters***37. Basic Makeup (1)**Introduction to theory and practice of stage makeup. 1 lec., 2 lab. *Schmunk***110A,B,C. Stage Movement (3) (1 per quarter)**Principles and techniques of expressive movement. 4 lab. *Gaffney***111A,B,C. Stage Speech (3) (1 per quarter)**Fundamentals of vocal action in theater: projection, quality, pitch, articulation, and control in emotional expression. 2 recit. Prereq: Theater major and 11A,B,C or equiv. *Hahne, Lane***115. Principles of Acting (3)**Elementary principles and techniques of acting. 1 lec., 4 lab. *Lane, McGraw***130A,B,C. Technical Production II (6) (2 per quarter)**Continuation of 30: A. Scenery, B. Lighting, C. Costume. 2 lec., 2 lab. Prereq: 30A,B,C. *Abbott, Schmunk, Winters*

140. Introduction to Child Drama (2)
 Survey of informal theater by children and formal theater for children; their roles in artistic and educational development of children. 2 lec., 1 lab. *Birner*

170-171-172. Theater History, I, II, III (9) (3 per quarter)

Development of theater and drama in the Western World. I. Pre-historic, Greek, and Roman periods; II. Medieval and Renaissance periods; III. From Renaissance to modern theater. 3 lec. *Weiner*

201. Play Production (4)

Fundamentals of theatrical production. Laboratory experience. Not open to majors. 3 lec., 2 lab. *Hahne*

210. Intermediate Acting (3)

Rehearsal and performance in roles of various types. 1 lec., 4 lab. Prereq: 115. *Lane, McGraw*

220. Intermediate Interpretation (3)

Analysis and oral presentation of principal types of literature. 3 lec./recit. *Conover*

232. Theatrical Rendering (3)

Drafting, figure drawing, media usage, and perspective for theatrical design. 2 lec., 2 lab. *Abbott, Schmunk, Winters*

233A,B. Bases of Theatrical Design (4, 2 per quarter)

Ornament, furniture, and minor arts from the pre-Greek era to the present; application to stage design. 2 lec., lab arranged. *Lacy, Abbott, Winters*

240. Dramatic Literature for Children (2)

Examination of plays for the child audience and literature for dramatization by children. 2 lec. *Birner*

250. Playwriting I (3)

Theory and practice of dramatic writing. 3 lec. *Howard, Walker*

290. Individual Projects (1-6)

May be repeated for a total of 6 credits. Prereq: perm.

310A,B,C. Acting Studio (24) (8 per quarter)

Intensive rehearsal and performance of roles, for acting majors only. 15 recit./lec. Prereq: 210 or equiv., perm. *Wagner*

315. Styles in Acting (3)

Advanced techniques of acting in relation to form and content of pre-modern and non-realistic drama. 2 lec., 3 lab. Prereq: 210 or equiv. *Conover, Gaffney, McGraw*

316. Advanced Stage Speech (3)

Principles and practice in vocal action for classical drama and dialects. 1 lec., 4 lab. Prereq: 111A,B,C, or perm. *Hahne, Lane*

321. Methods of Teaching Theater I (3)

See InCo 321. *Andersch, Hahne*

322. Methods of Teaching Theater II (2)

See InCo 322. *Andersch, Hahne*

330. Advanced Stagecraft (3)

Problems in planning, execution, and mounting of settings; emphasis on construction and shifting techniques. 3 lec., labs. arranged. Prereq: 130A,B,C and 232. *Abbott, Winters*

331. Theory of Lighting (3)

Lighting design for proscenium and non-proscenium staging; emphasis on design analysis. 3 lec. Prereq: 130A,B,C and 232. *Abbott, Winters*

332. Properties and Special Effects (3)

Problems of properties, sound and special effects, and scene painting. 3 lec., lab. arranged. Prereq: 130A,B,C and 232. *Abbott, Winters*

333. Scene Design I (3)

Basic techniques of scene design; theory and practice. 3 lec. Prereq: 130A,B,C and 232. *Abbott, Lacy, Winters*

334. Scene Design II (3)

Styles of modern scene design; theory and practice. 3 lec. Prereq: 333. *Abbott, Lacy, Winters*

335. History of Costume (4)

Development of costume from the pre-Greek era; emphasis on clothing as a reflection of Western cultural development. 4 lec. Prereq: 130A,B,C or perm. *Schmunk*

336. Costume Design I (3)

Elementary costume design. 2 lec., 2 lab. Prereq: 232, 335, and perm. *Schmunk*

337. Costume Design II (3)

Intermediate costume design. 2 lec., 2 lab. Prereq: 336 and perm. *Schmunk*

338. Advanced Makeup (3)

Character and stylized makeup. 1 lec., 3 lab. Prereq: 37. *Schmunk*

340. Children's Theater (3)

Study of play production and direction for the child audience. 3 lec./recit. *Birner*

341. Creative Dramatics (3)

Methods and techniques of guiding children through the art of creation of informal drama. 2 lec., 2 lab. Prereq: 140 and 240. *Birner*

350. Playwriting II (3)

Special problems of writing the long play. 3 lec. Prereq: 250. May be taken concurrently with 450. *Howard, Walker*

360. Directing I (3)

Principles and practices of directing for the stage. 3 lec. Prereq: 12 hrs., including 115. *Hahne, McGraw*

361. Directing II (3)

Practical experience in directing for the stage. 4 lab. Prereq: 360 or perm. *Hahne, McGraw*

370. Greek Theater and Drama (3)

Drama, theater, and audience in ancient Greece. 3 lec.

371. Roman and Medieval Theater (3)

Intensive study of drama and theater of Rome and Medieval Europe. 3 lec.

372. Renaissance Theater and Drama (3)

Development of European theater and drama in the Renaissance. 3 lec.

373. Restoration and 18th Century Theater (3)

Drama, theater, and audience in England from the Restoration through the 18th Century. 3 lec.

374. Baroque European Theater (3)

Detailed study of theater and drama of Europe in the Baroque period. 3 lec.

375. 19th Century European Theater (3)

Major developments in drama and theater in Europe during the 19th Century. 3 lec.

376. Contemporary Theater (3)

Trends and developments in 20th Century Theater. 3 lec.

377. American Theater and Drama (3)

Development of theater and drama in North America from colonial to modern times. 3 lec.

402. Theater Management (3)

Principles and practices of management in the performing arts. 3 lec.

410A,B,C. Advanced Acting Studio (24) (8 per quarter)

Advanced rehearsal and performance problems, for acting majors only. 15 recit./lec. Prereq: 310A,B,C and perm. *Wagner*

413. Acting Internship (6-12)

Prereq: Acting major and perm.

420. Direction of Oral Interpretation (3)

Principles, theory, and source materials, emphasizing group interpretation forms: readers theater, chamber theater, and choral reading. 4 lec./recit. Prereq: 220 or perm. *Conover*

421. Oral Interpretation of Dramatic Literature (3)

Analysis and oral reading of dramatic literature. 4 lec./recit. Prereq: 220 or perm. *Conover*

430. Technical Direction (3)

Role and responsibilities of the technical director. 3 lec. Prereq: 9 credits at 300 level or above in design/technical production courses. *Abbott, Lacy, Winters*

431. Advanced Lighting (3)

Light as an element of design. 4 lec. Prereq: 331 and 334 or equiv. *Abbott*

433. Practicum in Design or Technical Direction (3-12)

Advanced individual and group projects. May be repeated for a total of 12 credits. Prereq: perm. *Lacy, Winters*

434. Advanced Scene Design (3)

Scene design styles of pre-modern drama; theory and practice. 4 lec. *Lacy, Winters*

436. Advanced Costume Design (3)

Advanced problems and projects in theatrical costume. 2 lec., 2 lab. Prereq: 337 and perm. *Schmunk*

440. Advanced Children's Theater (3)

Application of principles and practices to advanced production problems. 3 lec./recit. Prereq: 340 or equiv. *Birner*

441. Practicum in Creative Dramatics (3)

Supervised practice in leading projects in creative dramatics. 2 lec., 2 lab. Prereq: 341 and perm. *Birner*

445. Children's Drama and the Arts (3)

Problems and potentials of approaching the creative arts for children through drama activities. 3 lec./recit. Prereq: perm. *Birner*

450. Playwrights Workshop (3)

Practical workshop study and production of plays written by students. May be repeated for a total of 9 credits. Arranged. Prereq: 250 or 350, or concurrent enrollment. *Howard, Walker*

460. Directing Pre-Modern Drama (3)

Principles and techniques of staging pre-modern drama. 3 lec. Prereq: 361 or equiv. *Conover, Lane*

461. Styles of Directing (3)

Advanced theories and practices of directing, with emphasis on non-realistic drama. 3 lec.
Prereq: 460 or perm. *Conover, McGraw*

475. Dramatic Criticism I (3)

Principles of dramatic criticism from Aristotle to modern theater. 3 lec. Prereq: 12 hrs. or perm. *Conover, Howard, Walker*

476. Dramatic Criticism II (3)

Modern dramatic criticism, from the time of Ibsen to the present. 3 lec. Prereq: 475 or perm. *Conover, Howard, Walker*

498. Advanced Individual Projects (1-6)

May repeat for a total of 6 credits. Arranged. Prereq: perm.

499. Independent Readings (1-12)

May repeat for a total of 12 credits. Prereq: perm.

ZOOLOGY

Professors: Elliott, Seibert (chairman).

Associate Professors: Heck, Lawrence, McQuate, Peterson.

Assistant Professors: Hagerman, Jones, Maier, Moore, Pierce, Romoser, Wilson, Witters.

Instructor: Allen.

The major requirement for the A.B. and B.S. degree is a minimum of 36 quarter hours in approved departmental courses. These courses must include Zool. 3-4, 125, and one quarter each of anatomy and physiology. For correct choice of latter courses, see outlines of preprofessional curricula and course descriptions. The following extra-departmental courses are required: Chem. 10, 11, 12 (organic chemistry is virtually a necessity), at least Math. 5 or its equivalent (60A, 63A).

Curricula are outlined in the College of Arts and Sciences section of the catalog for students preparing for medicine, dentistry, physical therapy, medical technology and zoology. Students who substitute a year in medical or dental school for the senior year at Ohio University are credited with 12 hours on the major for the A.B. or B.S. degrees. Those who complete the training in medical technology at Mount Carmel Hospital or at any other hospital approved by the Bureau of Registry and by Ohio University are credited with 48 hours toward the B.S. degree. Students who wish to teach and to complete requirements for the A.B. or B.S. degree with a major in zoology, may meet requirements for certification for teaching. Students are able to specialize in

bacteriology within the department by the appropriate choice of courses.

3. General Zoology (4)

Physical and chemical characteristics of living systems; morphology and physiology of cells; structural and functional modifications in major animal groups and how they relate to the theory of evolution. No credit if student has had Biol. 1, 2, 3. 3 lec., 2 lab. (Fall quarter)

4. General Zoology (4)

Elementary physiology and anatomy of a living organism to illustrate principles of life: metabolism, growth, reproduction, and heredity. 3 lec., 2 lab. No credit if student has had Biol. 1, 2, 3. Prereq: 3. (Winter quarter)

5. General Zoology (3)

Contemporary problems of biotic world of man. Effects of radiation, population pressures, food sources and food production; destruction of ecosystems; problems associated with increased life span. Meets natural science requirement for non-science majors. 2 lec., 1 disc. Prereq: 4. (Spring quarter)

97. Honors in Zoology (1-3)

Offered on demand. (Fall quarter)

98. Honors in Zoology (1-3)

Offered on demand. (Winter quarter)

99. Honors in Zoology (1-3)

Offered on demand. (Spring quarter)

100. Elements of Anatomy (5)

Course for medical technology, pre-mortuary and non-major students. Particular emphasis is given to study and dissection of head, thorax, and abdomen of the cat. 3 lec., 4 lab. Prereq: 4. (Fall quarter) *Heck*

101. Human Anatomy (6)

Structure of body systems with particular emphasis on human skeletal and muscular systems. Cat used for dissection. 3 lec., 6 lab. Prereq: 4. (Fall and Winter quarters) (This course is the same as P.E. 101.) *Allen, Hagerman*

103. Comparative Vertebrate Anatomy (6)

Comparative study of body systems of vertebrates, with laboratory work covering various type forms. 3 lec., 6 lab. Prereq: 4 (Winter and Spring quarters) *Elliott, Allen*

125. General Genetics (5)

Introduction of principles and concepts of genetics as revealed by classical and modern investigation. Prereq: 4. (Fall and Spring quarters) *McQuate, Pierce*

126. Laboratory Genetics (3)

Experiments, primarily with *Drosophila melanogaster*, designed to illustrate principles of genetics. 6 lab. Prereq: 120. (Winter quarter) *McQuate*

145. Human Physiology (4)

Same as P.E. 145. Functions of various tissues, organs and systems of mammals as applied to the human. Recommended for physical education, physical therapy, and home economics students. Prereq: 100 or 101. (Spring quarter) *Hagerman*

252. Kinesiology

Same as P.E. 252.

297. Honors in Zoology (1-3)

Offered on demand. (Fall quarter)

298. Honors in Zoology (1-3)

Offered on demand. (Winter quarter)

299. Honors in Zoology (1-3)

Offered on demand. (Spring quarter)

304. Comparative Vertebrate Anatomy — Mammalian (6)

Continuation of 103. Anatomy of mammals with particular emphasis on the cat. 3 lec., 6 lab. Prereq: 103 (Fall quarter) *Elliott*

305. Histological Technique (2)

Principles and methods of preparing animal tissues for microscopic study. 1 lec., 3 lab. Prereq: 4, junior or senior rank. (Fall and Winter quarters) *Peterson*

306. Vertebrate Embryology I (3)

Early stages of vertebrate development from gametogenesis to primary organ rudiment formation. 2 lec., 3 lab. Prereq: 100 or 103. (Winter quarter) *Peterson*

307. Vertebrate Embryology II (3)

Development of organ systems in representative vertebrate types with particular emphasis in laboratory given to chick and pig. 2 lec., 3 lab. Prereq: 306. (Spring quarter) *Peterson*

309. Histology (6)

Fundamental body tissues of vertebrates followed by a study of histology of body systems. 3 lec., 6 lab. Prereq: 101 or 103. (Winter quarter) *Heck*

310. Elementary Bacteriology (4)

Bacteria as living systems; methods for their study, utilization and control. Role of microor-

ganisms in soil, food, sanitation and disease. 2 lec., 4 lab. Prereq: 2 quarters of any of following: zoology, chemistry, botany, biology. Credit not granted for both 210 and 310. Department majors are referred to 310. (Spring quarter) *Lawrence*

311. General Bacteriology (5)

Properties of bacteria and other protists and their importance in our environment. Laboratory training in common bacteriological methods. 3 lec., 6 lab. Prereq: 4 or Botany 5, organic chemistry. Not open to students who have had 310. (Fall quarter) *Maier*

312. Microbiological Techniques (4)

Practical course to give the bacteriology major extensive experience in use of bacteriological techniques and equipment; information retrieval. 2 lec., lab. arranged. Prereq: 311. (Winter quarter) *Lawrence, Maier*

313. Pathogenic Bacteriology (5)

Microorganisms in relation to disease. Disease manifestations, diagnostic and control methods; some aspects of immunity. 3 lec., 6 lab. Prereq: 311. (Winter quarter) *Lawrence*

330. General Invertebrates I (5)

Structural, functional and systematic relationships among acelomates and molluscs. 3 lec., 4 lab. Prereq: 4. (Winter quarter)

331. General Invertebrates II (5)

Structural, functional and systematic relationships among coelomates. 3 lec., 4 lab. Prereq: 330. (Spring quarter)

333. General Protozoology (5)

Structure, life histories, physiology and relationships of representatives from all major groups of protozoa. 3 lec., 5 lab. Prereq: 15 hrs. of zoology. (Fall quarter, alt. yrs.) *Peterson*

335. General Entomology (5)

Overview of morphology, physiology, and general biology of insects. 2 lec., 6 lab. Prereq: 4. (Fall quarter) *Romoser*

336. Insect Morphology and Systematics (5)

Systematics and internal and external structure of insects. 2 lec., 6 lab. Prereq: 335. (Winter quarter, alt. yrs. 1967-68.) *Romoser*

337. Medical Entomology (2)

Relationship of insects and related arthropods to human disease. 2 lec. Prereq: 4, 10 hrs. zoology. (Spring quarter, alt. yrs. 1968-69.) *Romoser*

338. Insect Physiology (5)

Insects as living systems. Topics include: maintenance systems, control systems, reproduction, growth, and development. 2 lec., 6 lab. Prereq: 335; organic chemistry. (Winter quarter, alt. yrs. 1968-69.) *Romoser*

341. Parasitology (6)

Etiology of human parasites, their transmission and prevention. 3 lec., 6 lab. Prereq: 4. (Spring quarter) *Heck*

342. Helminthology (6)

Biology of parasitic worms with emphasis on physiology, classification, life histories, and host response. 3 lec., 6 lab. Prereq: 4. (Fall quarter, alt. yrs.) *Heck*

345. Physiology of Exercise**346. Comparative Physiology (6)**

Comparative study of homeostatic mechanisms and systems in organisms and their relation to fundamental chemical and physical events in cells. Includes ionic and water balance; cardio-vascular regulation and function; role of reflex arcs and autonomic nervous system controls; respiratory mechanisms; evolution of various systems. 3 lec., 6 lab. Prereq: one yr. chemistry, 12 hrs. zoology and/or botany. (Fall quarter) *Wilson*

347. Comparative Physiology (3)

Same as 346 but no laboratory; for med. techs. only. Prereq: one yr. chemistry, 12 hrs. zoology. (Fall quarter) *Wilson*

348. Cellular Basis of Animal Behavior (5)

Cellular basis of sensory reception, information transmission, integration, special and normal effectors, and ways in which animals use these activities to achieve orientation and behavioral patterns in response to changes in external environment. Includes neuroendocrine functions and controls. 2 lec., 6 lab. Prereq: one yr. chemistry, one quarter physics, 12 hrs. of zoology and/or botany. *Wilson*

350. Principles of Endocrinology (5)

Endocrine control of vertebrate metabolism and reproduction. 3 lec., 4 lab. Prereq: one quarter each of anatomy and physiology; organic chemistry recommended. (Fall quarter, alt. yrs.)

354. Physiology of Excitable Cells (3)

Investigation of basic mechanisms involved in impulse conduction in nerve and muscle. Electronic and radioisotope techniques will be discussed. 3 lec. Prereq: calculus. (Fall quarter) *Moore*

355. Membrane Biophysics (3)

Basic processes involved in membrane permeation, with special reference to current theoretical models. Prereq: calculus. (Winter quarter) *Moore*

356. Neurophysiology Lecture (3)

Functional aspects of central nervous system of organisms, with special emphasis on visual and auditory pathways in mammals. Prereq: 1 yr. chemistry, 1 quarter physics and anatomy. (Spring quarter, alt. yrs.) *Moore*

357. Neurophysiology Laboratory (3)

Use of advanced electronic and surgical techniques to investigate neurophysiological phenomena, with special reference to mammals. 6 lab. Prereq: 356 or with 356. (Spring quarter, alt. yrs.) *Moore*

358. Biophysical Chemistry (3)

Physical-chemical principles as applied to the cell and macromolecular solutions. Thermodynamic and kinetic considerations of cellular energy exchanges and utilization. Prereq: organic chemistry, calculus, physics, 346 or equiv. (Spring quarter, alt. yrs.) *Moore, Wilson*

360. Contemporary Physiology (1-3)

Studies-seminars-discussions in physiology with emphasis on current literature, research methods, and results. At both the advanced undergraduate and graduate levels. Arranged. Prereq: perm. (Fall, Winter and Spring quarters)

363. Biochemistry Lecture I (3)

Introduction to biochemical principles and relations of cell structures to metabolic and synthetic activity. Metabolism of carbohydrates, proteins, fats; principles of enzyme activity, kinetics, and organization. Prereq: organic chemistry. (Fall quarter)

366. Biochemistry Laboratory (3)

Laboratory course to accompany 363. Basic procedures in qualitative and quantitative analysis of biological compounds. 3 lab. Prereq: 363 or with 363. (Fall, Winter and Spring quarters)

370. Biology of Vertebrates (5)

Survey of vertebrate biology, other than birds; identification of museum collection with emphasis on Ohio specimens; collecting and preserving techniques. 3 lec., 4 lab. Prereq: 103. (Fall quarter) *Seibert*

371. Ornithology (3)

Bird biology, including general anatomy and physiology, migration, classification, life his-

tories. Emphasis on field identification. 2 lec., 3 field work. Prereq: 4 or Biol. 3. (Spring quarter) *Seibert*

375. Animal Communities (5)

Relation of animals to their surroundings; general ecological principles of habitats, populations, communities, ecosystems; and man's involvement in ecosystem. 3 lec., 4 or 5 lab. and field work. Prereq: 4. (Spring quarter) *Seibert*

379. Evolution (3)

Evidence for, and current ideas and research on, mechanisms of organic evolution. Prereq: 125. (Winter quarter) *Seibert*

417. Advanced General Bacteriology (6)

Detailed study of selected topics; cell structure, staining, sporulation, growth, variation, biochemical tests. Extensive assigned readings in current literatures. 3 lec., 6 lab. Prereq: 311. (Fall quarter) *Lawrence*

418. Contemporary Microbiology (1-3)

Lectures and readings on selected topics of contemporary importance, not otherwise available. Prereq: perm. Given on sufficient demand.

419. Bacterial Physiology (6)

Nutrition, function, and metabolism of bacteria; pertinent laboratory work illustrating fundamental principles and various experimental techniques. 3 lec., 6 lab. Prereq: 311. (Spring quarter) *Maier*

427. Molecular Genetics (3)

(Same as Botany 432) Gene action and fine structure; biochemistry of heredity; cytoplasmic inheritance. Prereq: 125 or Botany 330. (Spring quarter, alt. yrs.) *Cohn, McQuate*

428. Human and Population Genetics (3)

Genetics of man including normal and abnormal chromosomology; human biochemical genetics; genes in individuals, kindreds, populations and evolution. Prereq: 125. (Winter quarter, alt. yrs.) *Pierce*

451. Advanced Endocrinology (5)

Endocrine control of vertebrate digestion, respiration and homoeostasis. 2 lec., 6 lab. Prereq: 350. (Fall quarter, alt. yrs.)

476. Animal Ecology (3)

Relationships between animals and animal populations and their external and internal environments. Prereq: 375 or equiv. (Winter quarter, alt. yrs.) *Seibert*

480. Biological Research Methods (2)

480.1 Microscopy and photomicrography. Theory and application of microscope optical

systems and photography to biological investigation. Arranged. Prereq: perm. (Spring quarter, alt. yrs.) *Peterson*

490. Seminar in Zoology (1)

Presentation of readings in current literature. Recommended for senior majors; required of graduate students. Prereq: perm. (Fall, Winter and Spring quarters)

499. Undergraduate Research (1-3, max. 12)

Independent research under supervision of staff member. Arranged. Prereq: 20 hrs. and 2.5 average in zoology.

MEDICAL TECHNOLOGY

Mount Carmel Hospital Staff

H. B. Davidson, M.D., Director

The following courses are offered at Mount Carmel Hospital, Columbus, Ohio. See curriculum in the College of Arts and Sciences section of the catalog.

391. Urinalysis (3)

Physical, chemical, and microscopic study of urine.

392. Hematology (12)

Total red and white blood counts, hemoglobin determination, differential counts of white blood cells, sedimentation rates, blood typing, blood coagulation, and blood cross-matching.

393. Bacteriology, Serology, and Parasitology (15)

Review of medical bacteriology with particular emphasis upon and reference to methods of recognition and detection of types of bacteria; methods in which blood serum can be used in recognition and diagnosis of disease; review of parasites pathogenic to man; methods of examining feces; microscopic and bacteriologic study of sputum.

394. Chemistry (15)

Methods of blood chemistry determinations; methods of gastric analysis and more complicated chemical procedures for urine and other body products.

395. Histologic Technique (2)

Reviews of fundamental procedures in preparation of tissue for microscopic examination; study of special stains commonly used in microscopic examination of human tissue; experience in handling, on a routine basis, large amounts of human tissue for microscopic study.

396. Basal Metabolism and Radioisotopes (1)

Study of methods of determining basal metabolic rate, and radioisotopes tracer studies.

ADDENDA

ART HISTORY

336. Baroque and Rococo Art (3)

Course duration: one quarter. Arts of the seventeenth and eighteenth centuries. Undergraduate art history major, elective in the "Humanities."

REQUIREMENTS FOR AN ENGLISH MAJOR

The major requirement for the A.B. degree in English consists of a minimum of 42 hrs. beyond Eng. 70 and 80. These hours should be distributed as follows: 9 hrs. from 101, 102, 103, 105; 3 hrs. from 201, 202, 203 (Shakespeare); 3 hrs. from 204, 205, 206; 3 hrs. from 299, 301, 302 (preferably 301); 18 hrs. in 311, 312, 313, 314, 321, 322; and 6 hrs. at the 400 level, including at least 3 hrs. in a studies course.

For students seeking a bachelor's degree in English and secondary school certification the major is as follows: INCO. 1 (3 hrs.); 9 hrs. from Eng. 101, 102, 103, 105; 3 hrs. from 201, 202, 203 (Shakespeare); 3 hrs. from 204, 205, 206; 9 hrs. in 299, 311, 301 (preferably in that order); 18 hrs. in 311, 312, 313, 314, 321, 322; and 6 hrs. above 300 (at least 3 of these hours must be in a 400 level studies course). This is a total of 51 hrs. In addition, the student must take a one-year unit in theater, library science, linguistics, or philosophy/comparative arts and 3 hrs. of elective in any one of these units or English above 100.

AUDIO-VISUAL EDUCATION

380. Audio-visual Methods and Materials (3) Sources, selection and use of AV materials and equipment; preparation of displays and operation of AV equipment. (Lab required) Prereq: Jr. standing. *Oates*

481. Preparation of Audio-visual Materials (4)

Practice in creation and evaluation of instructional materials such as 2x2 slides, overhead transparencies, recordings, etc. Individual projects. Prereq: 380 or perm. *Oates*

COMPARATIVE ARTS

17, 18, 19. An Introduction to Fine Arts (3, 3, 3)

Analysis of form, media, and content of major arts stressing interrelationships of architecture, dance, dramatic art, music, literature and painting through recognition of common art factors. Open to Freshmen only.

117, 118, 119. An Introduction to Fine Arts (3, 3, 3)

Analysis of form, media, and content of major arts stressing interrelationship of architecture, dance, dramatic art, music, literature and painting through recognition of common art factors. Not open to Freshman.

151, 152, 153. History of Architecture (3, 3, 3)

The development of architecture with emphasis on environmental influences. Illustrated lectures.

170, 171, 172. History of Theater (3, 3, 3)

Survey of dramatic literature, physical theater, audience and production conditions from pre-historic periods to the early 20th century.

181, 182, 183. History of Radio-Television Programming (3, 3, 3)

Survey of the development of radio-television media as broadcasting, with emphasis on and examples of programming types.

203, 204, 205. History of Oratory (3, 3, 3)

Survey from Greek and Roman History to modern times.

221, 222, 223. History and Literature of Music (3, 3, 3)

Music from ancient times to the present.

231, 232, 233. History of Painting and Sculpture (3, 3, 3)

Periods, styles, and great personalities from early times to the present. Analysis of esthetic qualities in masterpieces of art.

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